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PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
OCTOBER 1960

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

SOLAR - GEOPHYSICAL DATA

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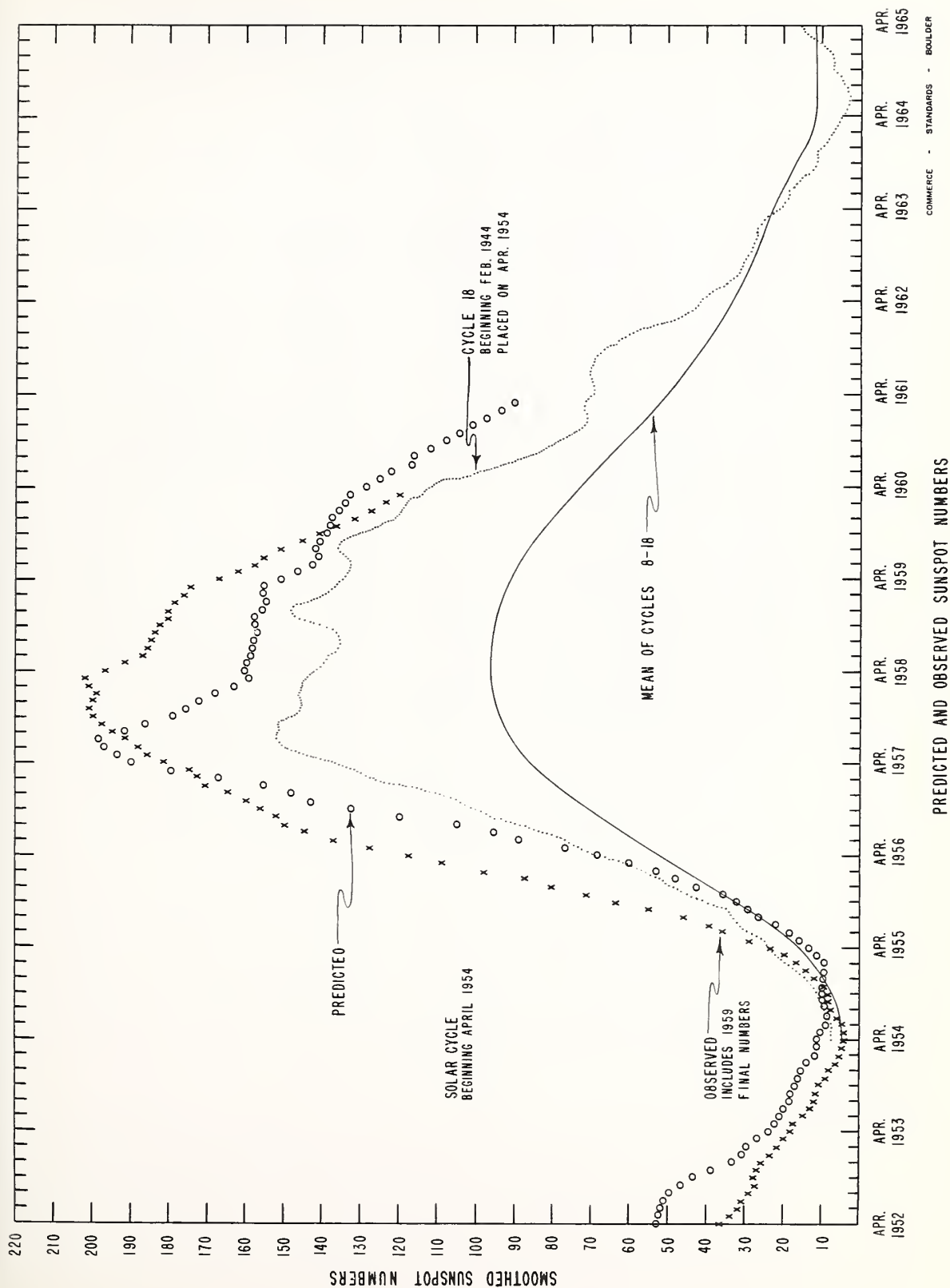
INTRODUCT ION

The descriptive text is published periodically or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F189 Part B issued May 1960.

DAILY SOLAR INDICES

Aug. 1960	American Relative Sunspot Numbers R_A
1	60
2	34
3	21
4	19
5	17
6	19
7	39
8	41
9	50
10	88
11	167
12	198
13	195
14	237
15	228
16	234
17	243
18	231
19	208
20	126
21	148
22	141
23	96
24	95
25	126
26	133
27	107
28	113
29	97
30	99
31	111
Mean:	120.0

Sept. 1960	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	103	137
2	105	152
3	80	149
4	75	142
5	83	142
6	100	149
7	108	162
8	107	170
9	129	173
10	162	175
11	149	175
12	143	177
13	156	181
14	157	181
15	159	178
16	115	177
17	114	185
18	141	190
19	156	199
20	171	195
21	177	189
22	189	184
23	168	175
24	157	162
25	141	155
26	114	148
27	92	142
28	89	132
29	74	124
30	44	121
Mean:	125.3	164.0



CALCIUM PLAGE AND SUNSPOT REGIONS

SEPTEMBER 1960

CMP Sept. 1960	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values Area Int.		History, Age	CMP Values Area Count		History
03.6	N13	5827	New	300	1.5	$\ell \searrow d$ 1			
04.2	S22	5832	5788	2100	2	$\ell - \ell$ 5			
04.4	S05	5831	5790	600	1.5	$\ell \searrow d$ 5	30	1	b \wedge d
05.0	N29	5836	5789	700	1.5	$\ell \searrow d$ 3			
05.5	S13	5833	5790	900	1.5	$\ell \searrow d$ 5			
06.1	S03	5834	5793	600	2	$\ell - \ell$ 3			
07.7	N15	5835	5794	2400	3	$\ell - \ell$ 3	60	7	$\ell \searrow d$
08.0	S05	5841	New	300	2.5	b / ℓ 1	80	4	b / ℓ
09.8	N20	5838	*	6000	3.5	$\ell - \ell$ -			
10.0	N24	5837	5794	9000	3	$\ell \setminus \ell$ 3	150	5	$\ell \setminus \ell$
10.5	S12	5839	5797	4800	3.5	$\ell - \ell$ 2	610	5	$\ell - \ell$
10.7	N08	5840	5796	3000	3	$\ell \setminus \ell$ 7	20	1	$\ell \setminus d$
12.2	S18	5843	**	500	2.5	$\ell \setminus \ell$ 2			
12.9	S09	5842	**	1600	2	$\ell \setminus \ell$ 2	100	3	b \wedge d
13.0	S20	5854	New	200	2.5	b / ℓ 1	40	4	b \wedge d
13.8	N18	5844	5799	3200	2.5	$\ell - \ell$ 2	50	4	$\ell \searrow d$
14.5	S14	5845	5801	5000	3	$\ell - \ell$ 3	40	3	b \wedge d
15.4	S04	5847	New	1500	3.5	$\ell - \ell$ 1	170	8	$\ell - \ell$
15.8	N16	5848	5802	5500	3	$\ell - \ell$ 2	170	4	$\ell \setminus \ell$
16.9	S11	5850	New	500	1.5	$\ell - \ell$ 1			
17.1	N20	5849	***	(3000)	(3)	$\ell \searrow d$ -			
17.6	N14	5852	5803	700	2.5	$\ell - \ell$ 2			
17.8	N25	5851	5806	1400	3.5	$\ell \setminus \ell$ 3			
17.9	N03	5853	5807	1800	2	$\ell \setminus \ell$ 5			
18.2	N20	5864	New	400	3.5	b / ℓ 1			
19.1	N27	5855	5806	1000	2	$\ell - \ell$ 3	280	7	b / ℓ
19.2	S05	5856	****	3000	2.5	$\ell - \ell$ 4	190	2	$\ell - \ell$
20.4	N26	5857	5810	1200	2	$\ell - \ell$ 2			
20.9	S19	5858	5828	5500	3.5	$\ell \setminus \ell$ 2	1210	10	$\ell - \ell$
21.8	N16	5859	5814	1200	2	$\ell - \ell$ 4	(50)	(2)	b \wedge d
22.9	S12	5861	5829	1200	2	$\ell - \ell$ 2			
23.7	N14	5862	5816	4900	3	$\ell - \ell$ 4	1000	15	$\ell - \ell$
25.3	S03	5865	New	1000	2.5	$\ell - \ell$ 1	100	1	$\ell \setminus \ell$
25.5	S15	5863	+	8000	3.5	$\ell \setminus \ell$ 2	340	1	$\ell - \ell$
26.1	N26	5866	New	3000	3.5	$\ell - \ell$ 1	100	3	$\ell \searrow d$
26.8	N37	5867	5817	800	2.5	$\ell \searrow d$ 6			
27.4	N17	5868	5822	2000	2	$\ell - \ell$ 7	10	1	b \wedge d
28.3	S06	5870	New	300	2.5	b - ℓ 1			
30.8	S03	5876	New	400	2	b - ℓ 1			

Correction for August: Region 5806 is return of 5779 in 2nd rotation.
Region 5810 is new in 1st rotation.

*Merged with 5837.

**5798, 5800.

***Merged with 5848.

****5809 and 5811.

+5825, 5830.

Provisional Coronal Line Emission Indices

for

September 1960

will be published at a later date.

SOLAR FLARES

SEPTEMBER 1960

OBSERVATORY	DATE SEPT 1960	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT				
		START	END	MAX PHASE	APPROX. LAT. MER. DIST.	MONTH PLACE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g		MAX. INT. ° _p			
{ CAPRI S { ISTANBUL { SAC PEAK { CAPRI S { ONDREJOV { HUANCAYO { HAWAII { LOCKHEED { HUANCAYO { HAWAII { LOCKHEED { HUANCAYO { SAC PEAK	01	0810 E	0834 D		N20 W07	5822	24 D	1	1	0810	2.50	2.80						
	01	0822	0910 D		N20 W16	5822	48 D	1										
	01	1320 E	1358 U	1330	N18 W15	5822	38 U	1			3.64							
	01	1430 E	1430 D		N19 W13	5822	60 D	1			2.40							
	01	1449 E	1530 D		N20 W12	5822	41 D	1							1.90			
	01	1502 E	1517 D	1502	N19 W10	5822	15 D	1			3.30	3.40			2.20		S-SWF	
	01	2038 E	2054 D	2042	S17 W49	5825	16	1			1.40							
	01	2038 E	2100 D	2042	S19 W52	5825	22	1			2.00					30		
	01	2040 E	2051 D	2042	S18 W46	5825	11 D	1			2.042	5.20						
	01	2058 E	2312 D	2102	N22 W16	5822	134 D	2			3.30				2.00			
	01	2059 E	2150 D	2104	N19 W12	5822	51	1			2.102					30		
	01	2100 E	2106 D	2103	N20 W17	5822	6 D	2			2.80				3.00			
	01	2100 E	2308 U	2112	N21 W14	5822	128 U	2			8.21					18		
	{ HAWAII { KODAIKUNL { ZURICH { ISTANBUL { CAPRI S { SAC PEAK { HUANCAYO { CAPRI S { ARCTRI { LOCARNO { LOCARNO { ZURICH { HAWAII { SAC PEAK { HAWAII { HUANCAYO { SAC PEAK { HAWAII { LOCKHEED	02	0100 E	0142 D		N21 W19	5822	42 D	1	1	0142	1.20						
		02	0250 E	0305 D	0250	S14 W54	5825	15 D	2	1	0258	6.50	11.80	1.76			122	S-SWF
		02	0706 E	0712 D		N19 W24	5822	6 D	2	2	0706		9.00					
		02	0710 E	0800 D		N19 W25	5822	50 D	3									
		02	0715 E	0838 D		N18 W21	5822	83 D	2	1	0715	5.10	5.30				18	
02		1356 E	1414 U	1402	S17 W64	5825	18 U	1	2	1401	2.91							
02		1400 E	1410 D	1401	S16 W54	5825	10 D	1	2	1403	1.70	4.20	4.00					
02		1401 E	1432 D		S18 W60	5825	31 D	1	2	1424	2.50	4.80						
02		1424 E			N15 W84	5818	□	1	3	1424	1.10							
02		1510 E	1600 D	1540	N17 W79	5818	50 D	1	2	1540							G-SWF	
02		1540 E	1550 D	1542	N18 W28	5822	10	1	2	1542	2.00							
02		1542 E	1550 D		N17 W28	5822	8 D	1	2	1542	5.00							
02		1814 E	1824 D	1820	N17 W90	5818	10	1	3	1820	.40					16		
02		1840 E	2000 D	1906	N20 W29	5822	80	1	2		3.64							
02		1844 E	2044 D	1914	N21 W28	5822	120	2	3	1914	3.90							
02		2058 E	2125 D	2103	N17 W80	5818	27	2	2	2105	1.30	6.10	6.30			24	S-SWF	
02		2234 E	2358 D	2305	N20 W32	5822	84 D	2	2	2308	9.50					30		
02		2250 E	0106 D	2308	N21 W31	5822	136 D	3	2	2308	3.20							
02	2223 E	2342 D	2342	N21 W31	5822	79	1	2	2308									
{ LOCKHEED { HAWAII { HAWAII { WENDEL { ISTANBUL { WENDEL { ONDREJOV { ARCTRI { ARCTRI { ARCTRI { LOCARNO { WENDEL { ARCTRI { WENDEL	03	0037 E	0145 U	0107	N20 E87	5838	68 U	2	1	0107	5.10					40	Slow S-SWF	
	03	0040 E	0154 D	0110	N17 E90	5838	74 D	3	2	0110	3.30							
	03	0136 E	0154 D	0140	N20 W34	5822	18 D	1	2	0140	1.70							
	03	0725 E	0808 D		S18 W65	5825	43 D	1+				5.00						
	03	0728 E	0745 D		S17 W70	5825	17	1+										
	03	0728 E	0758 D		N19 W34	5822	30 D	2										
	03	0752 E	0807 D		S16 W68	5825	16 D	1+	3	0755		11.00	2.70					
	03	0833 E	0922 D		N15 W90	5818	49 D	1			.70	3.20						
	03	0833 E	0922 D		N17 W87	5818	49 D	1	3	0844	.80	3.90						
	03	0834 E	0930 D		N18 W39	5822	56 D	1	3	0844	2.60	3.40						
	03	0905 E	0935 D		N19 W37	5822	30	1	3	0923								
	03	0912 E	0928 D		N18 W38	5822	16 D	1	2			3.00						
	03	1000 E	1010 D		N17 W87	5818	10 D	1	3	1000	1.00	4.20						
	03	1107 E	1138 D		N18 W38	5822	31 D	1				3.00						
	04	1051 E	1112 D		S15 W90	5825	21 D	1	3	1058	1.80							
	04	1242 E	1306 D		N21 W50	5822	24 D	1	3	1250	2.10	3.20						

SOLAR FLARES

SEPTEMBER 1960

OBSERVATORY	DATE SEPT 1960	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.				TIME U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o		MAX. INT. F ₂
LOCKHEED	04	1624	1640	1628	S19	W90	5825	1	2	1628	2.00			20	Slow S-SWF
LOCKHEED	04	1628	1650	1630	N20	E64	5838	1	2	1630	2.00			20	
HAWAII	05	0004	0032	0010	N22	W64	5822	1+	2	0010	5.20				
ISTANBUL	05	0803	0820		N05	E69	5840	1							
ISTANBUL	05	0818	0830		S15	E75	5839	1							
HAWAII	05	1924	2100	1938	N03	E68	5840	1	3	1938	1.70				
LOCKHEED	05	1925	2050	1927	N05	E63	5840	1	2	1927	2.00			20	
LOCKHEED	05	1925	2050	1940	N05	E63	5840	1	2	1927	2.00			20	
LOCKHEED	05	1925	2050	2020	N05	E63	5840	1	2	1927	2.00			20	
MCMAH	05	1925	2054 D	1944	N04	E66	5840	1	2	1944		2.00			
ISTANBUL	06	0740	0825		N20	W80	5822	1							
SAC PEAK	06	1444	1624	1458	N15	E12	5835	1+	2		4.94			18	
MCMAH	06	1446	1601 D	1505	N14	E11	5835	1	3	1505		3.00			
UCCLE	06	1448	1520 D	1454	N14	E14	5835	2	3	1454	6.50				
HUANCAYO	06	1449	1528	1453	N16	E11	5835	39	1	1453	2.20		2.60		
LOCKHEED	06	1524 E	1620	1530	N15	E12	5835	56 D	1	2	1530	2.10		20	Slow S-SWF
HAWAII	06	2020 E	2052	2020	S21	E77	5843	32 D	1	2	2020	1.10			
ISTANBUL	07	0735	0800 D		S16	E64	5843	25 D	1						
CAPRI S	07	1458 E	1518		S17	E60	5843	20 D	1	3	1502	1.00	2.40		
HAWAII	07	1806	1816 D	1807	S10	E34	5839	10 D	1	2	1807	1.00			
HAWAII	07	2308	2332	2314	S11	E30	5839	24	2	2314	3.40			30	S-SWF
LOCKHEED	07	2309	2345	2311	S09	E29	5839	36	1+	2	2312	4.60			
ONDREJOV	08	0623 E	0634		S20	E55	5843	11 D	1	3	0625			2.40	
ISTANBUL	08	0730	0810 D		S04	W04	5841	40 D	1						
ONDREJOV	08	0857 E	0925 D		S06	W06	5841	28 D	1	2	0920			2.70	
ONDREJOV	08	0925 E	0947		N21	E13	5837	22 D	1+	2	0926			2.70	
ONDREJOV	08	0949 E	1010		S20	E53	5843	21 D	1	3	0949			2.20	
LOCARNO	08	1404	1420		S05	W05	5841	16	1	2					
ONDREJOV	08	1406 E	1422		S07	W06	5841	16 D	1	3	1407			2.30	
LOCARNO	08	1451	1500		N06	E30	5840	9	1						
LOCARNO	08	1510	1533		N06	E29	5840	23	1+	2					
LOCARNO	08	1640	1745 D		S08	E22	5839	65 D	1	2					
SAC PEAK	09	1544	1612	1554	S10	E08	5839	28	1	2		2.18	5.00	17	
WENDEL	09	1552	1613 D		S10	E09	5839	21 D	1+			.40			
HAWAII	09	1926	1932	1928	N16	E90	5848	6	1	3	1928				
WENDEL	10	1156 E	1211 D		S10	W08	5839	15 D	1						
WENDEL	10	1219 E	1325		N20	W15	5837	66 D	1+					3.00	
LOCARNO	10	1225 E	1335	1300	N19	W15	5837	70 D	2	2	1300			6.00	
LOCARNO	10	1617	1700		N19	W17	5837	43	1+	2	1624			6.00	
HAWAII	10	2112 E	2138	2118	N21	W20	5837	26 D	1	1	2118	1.40		4.00	
LOCKHEED	10	2310	0000	2327	N16	W17	5837	50	1	2	2327	2.70			20
HAWAII	10	2312	0016	2326	N21	W21	5837	64	2	2	2326	3.50			
CAPRI S	11	0704 E	0840 D		S03	E56	5847	96 D	1	3	0745	1.80	3.10		
UCCLE	11	0959	1025		S05	E55	5847	26	1	3	1005	3.50	5.00		

COMMENCE - STANDARDS - BOULDER

SOLAR FLARES

SEPTEMBER 1960

OBSERVATORY	DATE SEPT 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o	MAX. INT. %	
{ CAPRI S WENDEL LOCARNO MCMATH LOCARNO WENDEL	11	1000	1030	S03 E55	5847	30	1	2	1212	1.80	2.10		
	11	1200	E 1241 D	N17 W27	5837	41 D	1	3			7.00		
	11	1205	E 1237 D	N19 W25	5837	32 D	1+				6.00		
	11	1210	E 1230	N18 W27	5837	20 D	2	2	1210		3.50		
	11	1213	E 1241 D	N19 W28	5837	28 D	1+	2	1214		4.00		
	11	1545	1600	N21 E31	5844	15	1	2					
{ LOCKHEED WENDEL CAPRI S ONDREJOV UCCLE	11	1613	E 1642 D	S03 E52	5847	29 D	1						
	12	0039	0103	N13 W34	5837	24	1	1	0047	2.00	9.00		20
	12	0735	0810 D	N15 W48	5837	35 D	2				4.60		
	12	0737	E 0823	N20 E49	5848	46 D	1	3	0740	2.90		3.50	
	12	0738	0822	N17 E57	5848	44	1+	3	0740				
	12	0850	0935 D	N15 W39	5837	45 D	1	2	0857	2.50	4.40		
{ UCCLE LOCARNO CAPRI S WENDEL ONDREJOV	12	1119	1200	N20 E23	5844	41	1	4	1124	4.00			
	12	1120	1130 D	N19 E20	5844	10 D	1	2			2.10		
	12	1120	E 1213 D	N15 E20	5844	53 D	1	3	1134	1.90	4.00	2.10	
	12	1127	E 1156 D	N21 E07	5844	29 D	1						
	12	1132	E 1204 D	N15 E25	5844	32 D	1	2	1134				
	12	1125	1130 D	S18 E06	5842	5 D	1	2		2.80			16
{ SAC PEAK LOCARNO SAC PEAK	12	1938	2002	S11 E10	5842	24	1	2		2.08			18
	12	2234	2256	S03 E29	5847	22	1	2					
	13	0629	0641	N20 E16	5844	12	1+	3	0633	2.10	2.20	2.40	
	13	0754	E 0844 D	N17 E01	5844	50 D	1	3	0808		9.00		
	13	0758	E 0828 D	N20 W03	5844	30 D	2						
	13	0808	0907	N17 E05	5844	59 D	1+	3	0810	7.00	7.00	2.30	
{ UCCLE WENDEL ONDREJOV UCCLE WENDEL ONDREJOV	13	0821	E 0845 D	N21 E04	5844	24 D	2	3			3.00	1.90	
	13	1042	E 1059 D	S06 W44	5839	17 D	1	3	1045	5.00	8.00		
	13	1042	E 1100	S03 W44	5839	18 D	1	1	1113		3.00		
	13	1058	E 1141	N21 W57	5837	43 D	2	1					
	13	1115	E 1125 D	N18 W55	5837	10 D	1	3	1125	2.10	3.40	2.00	
	13	1125	E 1134	S03 W73	5841	9 D	1	3	1153				
{ CAPRI S ONDREJOV UCCLE WENDEL STOCKHOLM ZURICH	13	1138	E 1213	N19 W52	5837	35 D	1	3	1141	2.50	4.00	3.00	
	13	1139	1211	N19 W54	5837	32	1+	2					
	13	1140	1232	N19 W52	5837	52	1+	3	1148	2.50	1.00	2.50	
	13	1508	1520	S04 W47	5839	12	1	2	1508	2.30	2.40	2.50	
	13	1548	1552	S11 E01	5845	4	1	2	1552				
	14	1151	1205 D	N26 E50	5851	14 D	1	1	1205	2.50	3.50	2.20	
{ UCCLE ONDREJOV UCCLE ONDREJOV UCCLE ONDREJOV	14	1156	E 1210 E	N26 E47	5851	14 D	1	3	1158				
	14	1233	E 1241 D	N17 W20	5844	8 D	1	1	1241	2.50	3.00	2.00	
	14	1238	1304 D	N23 W12	5844	26 D	1	3	1244				
	14	1257	1310 D	N19 W05	5844	13 D	1+	1	1310	2.50	3.50	2.30	
	14	1302	1333	N20 W04	5844	31	1	3	1308				
	14	1722	1814	S17 E90	5856	52	1	2		2.45	2.00		19
{ MCMATH SAC PEAK MCMATH ONDREJOV MCMATH HAWAII	14	1748	1826	N18 W72	5837	38	1	2	1800				
	14	1753	1850 D	N19 W71	5837	57 D	1	2	1800				
	15	1003	1011	N20 W70	5837	8	1	3	1004			2.50	
	15	2141	2144 D	S20 E85	5858	3 D	1	3		.40			
	15	2234	2248	N16 W90	5837	14	1	3	2244				
	15												

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COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

SEPTEMBER 1960

OBSERVATORY	DATE SEPT 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION -- MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	
{ LOCKHEED LOCKHEED HAWAII	15	2234	0000	N16	W85	86	1	2	2.00			20
	15	2234	0000	N16	W85	86	1	2	2.00			20
	15	2338 E	2342 D	S04	W90	4 D	1	2	.30			
{ STOCKHOLM ARCETRI	16	0923 E	0930 D	N20	W90	7 D	1	3				
	16	0935 E	0940 D	N08	W11	5 D	1	3				
	16	0941 E	0950 D	N11	W11	9 D	1	3				
{ HUANCAYO STOCKHOLM	16	1710	1810 D	S21	E66	60 D	1	2	2.50	2.60	2.80	S-SWF
	16	1710	1810 D	S21	E66	60 D	1	2	1.00	2.90		
	16	1723 E	1855	S23	E70	92 D	1	2	2.00	2.00		
{ ISTANBUL ISTANBUL	17	0800	0900 D	S19	E57	60 D	□					
	17	0815	0900 D	N27	E09	45 D	1+					
	17	0820 E	0822	S08	E24	2 D	1	2		2.00		
{ LOCKHEED LOCKHEED	17	2115	2205	N14	W30	50	1	2	2.60			10
	18	0017	0130	N15	W33	73	1	1	3.60			30
	18	0040 E	0150	N16	W29	70 D	1+	2	3.10			
{ ISTANBUL WENDEL	18	0730 E	0745 D	N26	E05	15 D	1					
	18	0856 E	0902 D	S21	E49	6 D	1			4.00		
	18	0935 E		N22	W01	□	1	4				
{ WENDEL WENDEL	18	1114 E	1118 D	S21	E47	4 D	1			4.00		
	18	1114	1127 D	S22	E48	13 D	1	2	1.50	2.00		
	18	1815	1910	S21	E42	55	1	2	3.70			30
{ LOCKHEED SAC PEAK	18	1824 U	1842 D	S21	E44	18 U	1+	1	4.57			S-SWF
	18	1828 E	1846	S25	E42	18 D	1	2	2.60			
	18	1835	1850	N29	W07	15	1	2	1.40			
{ HAWAII HAWAII	18	2302 E	2344 D	S25	E37	42 D	1	2	1.10			
	19	0707 E	0747 D	S17	E73	40 D	2	2	2.10	7.10		S-SWF
	19	0720 E	0752 D	S17	E73	32 D	2	3		9.00	3.90	
{ ONDREJOV ONDREJOV	19	0723 E	0759 D	S18	E72	36 D	2	3				
	19	0745 E	0815	N26	W16	30 D	1+					
	19	0754 E	0804 D	N26	W14	10 D	1	2			1.90	
{ ISTANBUL ISTANBUL	19	0745 E	0818	N08	E68	33 D	1+	3				
	19	1122 E	1129	N25	E87	7 D	1	3	1123		2.60	
	19	2150	2230	S16	E90	40	1	3	.50			
{ CAPRI S CAPRI S	20	0650 E	0710 D	S03	E66	20 D	1	3	1.30	3.40		
	20	0657 E	0733 D	S10	E80	36 D	1	3	.80			
	20	0730 E	0825	S11	E73	55 D	1	3		3.60		
{ ISTANBUL ISTANBUL	20	0730 E	0830 D	S03	E67	65 D	1					
	20	0940 E	1005 D	S20	E15	25 D	1+	3				
	20	1310	1344	N22	E67	34	1	2		3.00		
{ LOCARNO LOCARNO	20	1318 E	1341 D	N22	E75	23 D	1	2	.80	2.10		
	21	0832 E	0850 D	N23	E56	18 D	1	3	1.50	2.90		
	21	1032	1057	S15	E42	25	1+	2		3.00		
{ LOCARNO LOCARNO	21	1232	1250	S12	W05	18	1+	2		2.00		
	21	1326	1438	N22	W43	72	2	2		7.00		
	21	1335	1354 D	N22	W43	19 D	1	1	1.80	2.60		
{ CAPRI S SAC PEAK	21	1350 E	1500 U	N22	W44	70 U	1	2	3.49			19
	21	1350 E										

SOLAR FLARES

SEPTEMBER 1960

OBSERVATORY	DATE SEPT 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER DIST.				M-MATH PLAGE REGION	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
SAC PEAK	21	2100	2134	S15	E60	5863	1	2		3.64			20
LOCARNO	22	0737	0747	N23	E41	5866	10	2	0739		1.00		
{ CAPRI S	22	0858	0927	N21	W54	5864	29	2	0905		4.00		
LOCARNO	22	0902	E 0918	N21	W52	5864	16 D	3	0905	1.30	2.20		
LOCARNO	22	1512	1525	S16	E30	5863	13	2					
SAC PEAK	22	1800	1906	S20	W19	5858	66 U	2		3.64			20
LOCKHEED	23	0040	0120	S20	E35	5863	40 D	1	0115	3.00	3.00		20
{ WENDEL	23	0717	0732	N25	E29	5866	15	1					
LOCARNO	23	0718	0729	N23	E27	5866	11	2					
{ STOCKHOLM	23	1019	E 1031	N22	W65	5864	12 D	2	1021	1.50	3.00		
WENDEL	23	1019	E 1034	N21	W69	5864	15 D	2			5.00		
{ LOCARNO	23	1127	1155	S21	E11	5863	28	1+	1131		2.00		
WENDEL	23	1129	1148	S20	E11	5863	19	1			3.00		
WENDEL	23	1329	1401	N21	E11	5862	32	1+			6.00		
LOCARNO	23	1333	1403	S21	E11	5863	30	1+	1339		3.00		
HUANCAYO	23	1334	1354	S20	E08	5863	20	2	1337	2.00	2.20	3.10	
{ STOCKHOLM	23	1335	1356	S23	E13	5863	21 D	3	1338	3.00	3.60		15
SAC PEAK	23	2324	2344	S14	E27	5863	20 D	1		2.60			
{ WENDEL	24	0705	0715	S19	E03	5863	10 D	1			3.00		
WENDEL	24	0714	0801	S21	W01	5863	47	1+			6.00		
LOCARNO	24	0725	0730	S21	W01	5863	5 D	2	0830		1.00		
{ UCCLE	24	0922	0940	S20	E02	5863	18	1		2.00	2.00		
LOCARNO	24	0923	0955	S20	E01	5863	32	2	0926		2.00		
ZURICH	24	0928	0940	S20	E02	5863	12	3	0928		3.00		
WENDEL	24	0946	E	S19	E01	5863	□	1			3.00		
LOCARNO	24	1341	1355	S20	W05	5863	14	2					
{ WENDEL	24	1343	1404	S21	W02	5863	21	1			3.00		
WENDEL	24	1420	1436	N07	W02	5862	16	1			3.00		
{ LOCARNO	24	1435	1450	N05	W06	5862	15	1					
MCMATH	24	2116	2139	S20	W10	5863	23 D	2	2118		5.00		
SAC PEAK	24	2116	2202	S21	W10	5863	46	2+		8.72			25
LOCKHEED	24	2116	2203	S22	W11	5863	47	1	2119	3.40			30
HAWAII	24	2304	E 2340	N26	E19	5866	36 D	1	2310	2.30			
WENDEL	25	0759	0932	N26	E09	5866	93	3			19.00		
WENDEL	25	1025	1045	S20	W15	5863	20	1			4.00		
{ ONDREJOV	25	1246	1307	S20	W12	5863	21	1	1256			1.90	
WENDEL	25	1246	1318	S18	W10	5863	32	2			9.00		
{ CAPRI S	25	1255	E 1314	S14	W13	5863	19 D	1	1257	2.50	2.60		
ONDREJOV	25	1353	E 1410	S23	W50	5858	17 D	3	1358			1.80	
WENDEL	25	1507	1538	S18	W19	5863	31	1			4.00		
SAC PEAK	25	1514	1528	S18	W20	5863	14	3		2.45			16
WENDEL	25	1556	1615	S02	W06	5865	19	1			4.00		
{ SAC PEAK	25	1834	1852	S18	W22	5863	18	3		4.40			17
LOCKHEED	25	1834	1855	S18	W22	5863	21	2	1839	1.90			20
{ HAWAII	25	1940	2050	N27	E07	5866	70	3	1950	3.30			
SAC PEAK	25	1942	2024	N26	E06	5866	42	2		5.69			18
LOCKHEED	25	1932	2052	N27	E04	5866	80	2-	1950	5.40			20

SOLAR FLARES

SEPTEMBER 1960

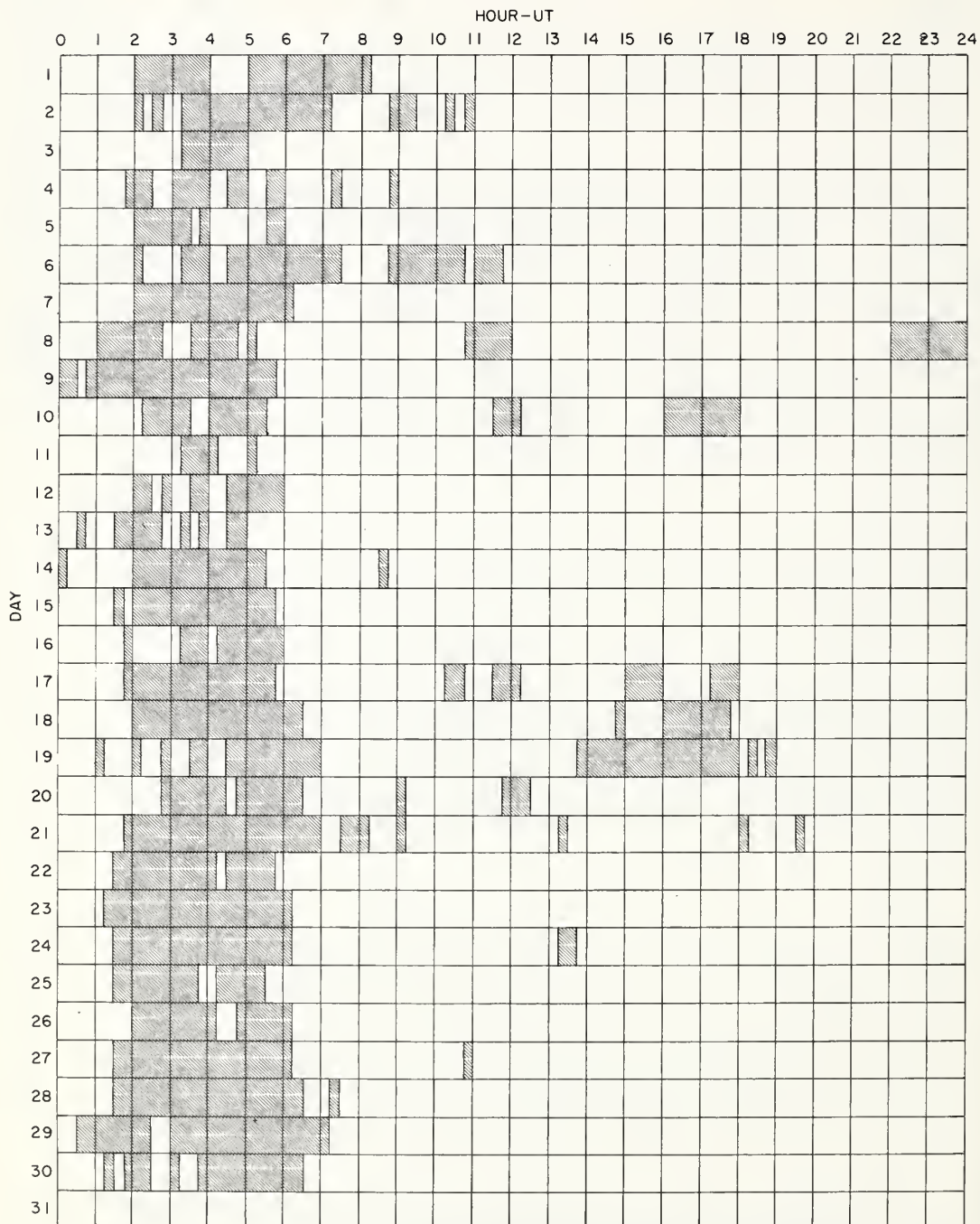
OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT			
		START	END	APPROX. LAT.	MER. DIST.				MC-MATH FLAG REGION	TIME — UT	MEAS. AREA Sq. Deg.		COBR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX. INT. %
SAC PEAK	25	2156	2222	S02	W08	5865	1	3		3.20			16	SLOW S-SWF	
	26	0735 E	0748	S10	E06	5863	1								
	26	0735 E	0805	S19	W63	5858	1								
	26	1016	1037	S10	E05	5863	1	2							
	26	1023 E	1028 D	S12	E03	5863	5 D	3	1023	3.00	3.00				
	26	1332	1337	S21	W63	5858	5	2							
	26	1350	1435 D	S21	W63	5858	45 D	2	1355	5.00	5.00				
	26	1355 E	1432 D	S23	W59	5858	37 D	3	1405	2.30	2.30				
	26	1358 E	1424	S21	W64	5858	26 D	1	2.08	2.08	4.00				
	26	1400 E	1430	S23	W65	5858	30 D	1	1400	6.00	6.00				
	26	1402 E	1434	S20	W64	5858	32 D	2	1402	3.00	3.00				
	26	1450	1500 D	N28	W04	5866	10 D	1	1450	2.28	2.28				
	26	1910	1924	S15	W26	5863	14	2							
	26	1950	1956	S20	W32	5863	6	2		2.14					15
	26	1950	1956	S20	W32	5863	6	2		2.14					18
	27	0802 E	0809 D	N09	W39	5862	7 D	1			3.00				
	27	0828	0837	S20	W37	5863	9	1	2	0830	2.00	2.00			
	27	0943	1020	S16	W13	5863	37	1	2	0950					
27	1030	1046	S21	W75	5858	16	1	2							
27	1229 E	1240 D	S20	W76	5858	11 D	1	2			3.00				
27	1250	1430	S14	W24	5863	100	2-	2							
27	1303	1342	S10	W25	5863	39	1	4	1328	4.50					
27	1311 E	1342 D	S17	W17	5863	31 D	1				3.00				
27	1315 E	1342 D	S17	W12	5863	27 D	1+	2			6.00				
27	1429	1447	N11	W43	5862	18	1	2	1432		2.00				
27	1507		S08	W25	5863	□	1	3			4.00				
27	1702	1723	N09	W47	5862	21	1	2	1705	1.80			40		
27	1900	1940	N12	W46	5862	40	1	3	1932	1.10					
28	0909	0914 D	S08	W27	5863	5 D	1	3	0914	3.00					
28	0940 E	1038 D	S18	W90	5858	58 D	1	2	1032	3.70	3.70				
28	1218 E	1308 D	S14	W90	5858	50 D	1	2	1229	5.00	5.00				
30	1953	2020	S11	W59	5863	27	1	1			2.00				

CAPRI G ANACAPRI - GERMAN
 CAPRI S ANACAPRI - SWEDISH
 GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 KIEV* KIEV UNIVERSITY
 KODAIKANAL KODAIKANAL
 KRASNAYA KRASNAYA PAKHRA
 LOCKHEED LOS ANGELES
 MOSCOW-G MOSCOW - GAISH
 R O EDIN ROYAL OBSERVATORY, EDINBURGH
 R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
 SAC PEAK SACRAMENTO PEAK
 SCHAUMS SCHAUMS
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.
 E - LESS THAN & - PLUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED
 LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

SEPTEMBER 1960



Stations include:

Anacapri (Swedish)
Arcetri
Hawaii
Istanbul

Kodaikanal
Lockheed
McMath
Ondrejov

Royal Observatory Greenwich
Herstmonceux
Sacramento Peak
Uccle

COMMERCE - STANDARDS - BOULDER

PROMEX 1001 10

SUBFLARES

IIIh

Noted as follows: Date-Universal Time - Coordinates

AUGUST 1960

LOCKHEED	01 0057	N06 W20	* DNOREJDV	10 0642	S17 E70	LOCKHEED	13 1919	N20 W20
UCCLE	01 0959	N16 W28	SAC PEAK	10 1256	N23 E43	MCNATH	13 1920	N19 W20
* CAPRI S	01 1027 E	N05 W24	LOCKHEED	10 1600	N12 E85	LOCKHEED	13 1955	N00 W47
SAC PEAK	01 1440	N24 W76	LOCKHEED	10 1600	N12 E85	LOCKHEED	13 2010	N16 E40
SAC PEAK	01 1524 E	N07 W27	LOCKHEED	10 1708	N09 E85	LOCKHEED	13 2022	N15 E40
MCNATH	01 1524	N07 W27	SAC PEAK	10 1726	N08 E86	LOCKHEED	13 2050	S03 W44
LOCKHEED	01 1525 E	N07 W27	LOCKHEED	10 1726	N12 E85	MCNATH	13 2051	N21 W22
HAWAII	01 1834	N00 W29	* LOCKHEED	10 1752	N12 E85	MCNATH	13 2052	S03 W44
SAC PEAK	01 1834	N08 W31	* SAC PEAK	10 1820	N08 E85	LOCKHEED	13 2052	N21 E40
LOCKHEED	01 1837	N06 W30				LOCKHEED	13 2113	S13 E70
HAWAII	01 1840	N04 W32	WENDEL	11 0846 E	S05 E65	LOCKHEED	13 2140	N12 E71
LOCKHEED	01 2119	N11 W28	* MCNATH	11 1201	N24 E25	LOCKHEED	13 2140	N12 E71
			* WENDEL	11 1225 E	S02 W08	LOCKHEED	13 2152	N15 E40
LOCKHEED	02 0029	N13 W32	WENDEL	11 1253 E	S10 E56	MCNATH	13 2156 E	N15 W40
LOCKHEED	02 0225	N10 W33	WENDEL	11 1253 E	S02 W11	LOCKHEED	13 2358	S22 W90
UCCLE	02 1133	N05 W39	WENDEL	11 1337 E	N22 E25	LOCKHEED	13 2209	N0 W43
* SAC PEAK	02 1344	N24 W50	SAC PEAK	11 1442	S24 W52	LOCKHEED	13 2212	N21 E44
SAC PEAK	02 1510	N03 W42	LOCKHEED	11 1552	S24 W54	HAWAII	13 2214	N22 E48
LOCKHEED	02 1858	N08 W44	SAC PEAK	11 1552	S25 W56	SAC PEAK	13 2218 U	N20 E46
W242	02 2242	N04 W47	SAC PEAK	11 1704	S25 W55	* LOCKHEED	13 2234	S03 W44
LOCKHEED	02 2301	N13 W45	LOCKHEED	11 1705	S24 W54	* MCNATH	13 2251	S12 E68
LOCKHEED	02 2315	N13 W45	MCNATH	11 1735	S14 E42	MCNATH	13 2253 E	S12 W69
			LOCKHEED	11 1735	S14 E43	LOCKHEED	13 2300	N21 E60
SAC PEAK	03 1532	N10 W54	LOCKHEED	11 1749	N23 E18			
LOCKHEED	03 1533 U	N09 W54	LOCKHEED	11 1750	S04 E63			
SAC PEAK	03 1622 E	N07 W56	LOCKHEED	11 1751 E	S04 E63	LOCKHEED	14 0051	S06 E32
LOCKHEED	03 1654	N06 W55	HAWAII	11 1752 E	S04 E66	LOCKHEED	14 0104	N22 E40
LOCKHEED	03 1821	N06 W55	LOCKHEED	11 1821	S23 W53	LOCKHEED	14 0114	N19 W03
HAWAII	03 1932	N16 E15	LOCKHEED	11 1821	S23 W53	* LOCKHEED	14 0155	N21 E39
SAC PEAK	03 2026	N10 W57	HAWAII	11 1824	S02 W14	* CAPRI S	14 0755 E	N24 E39
LOCKHEED	03 2026	N10 W58	LOCKHEED	11 1825	S02 W16	CAPRI S	14 1004 E	N10 E42
			LOCKHEED	11 1840	S06 E63	MCNATH	14 1159	N21 E47
SAC PEAK	04 1754	N19 E90	HAWAII	11 1842	S05 E64	MCNATH	14 1159	S13 E19
SAC PEAK	04 1848 E	N19 E90	* LOCKHEED	11 2003	S02 W18	* MCNATH	14 1236 E	N20 E33
SAC PEAK	04 2136 E	N19 E90	* MCNATH	11 2004	S02 E18	MCNATH	14 1237	N19 E32
			* SAC PEAK	11 2038 E	N20 E23	* MCNATH	14 1332	S01 W52
UCCLE	05 0951	S11 W11	LOCKHEED	11 2140	S25 W57	WENDEL	14 1349 E	S11 E06
SAC PEAK	05 1318	N17 E90	LOCKHEED	11 2207	S10 E90	* SAC PEAK	14 1418	N0 W53
SAC PEAK	05 1336	N05 W84	LOCKHEED	11 2254	S24 W57	LOCKHEED	14 1455 E	N20 E42
SAC PEAK	05 1356	N17 E90	HAWAII	11 2256	S27 W59	LOCKHEED	14 1513	N20 W28
SAC PEAK	05 1526	N17 E90				LOCKHEED	14 1525	S06 E16
HAWAII	05 1857	S12 W20	HAWAII	12 0012	S02 W17	SAC PEAK	14 1526	S06 E17
HAWAII	05 2210	S11 W22	LOCKHEED	12 0033	S10 E90	HUANCAYO	14 1533	S08 E14
* LOCKHEED	05 2212	N18 E85	LOCKHEED	12 0045	S24 W58	LOCKHEED	14 1706	N20 E30
			HAWAII	12 0046	S27 W59	LOCKHEED	14 1721	S09 E55
HAWAII	06 0020	S30 E08	HAWAII	12 0156	S02 E21	LOCKHEED	14 1727	N19 E32
LOCKHEED	06 0217	N19 E85	MCNATH	12 1226	S11 E88	LOCKHEED	14 1759	S03 W55
ARCETRI	06 0936 E	N20 E77	MCNATH	12 1230	S01 W24	LOCKHEED	14 1806	N19 E29
STDCDOLM	06 1046 E	N19 E76	MCNATH	12 1240	N19 E18	LOCKHEED	14 1816	S01 W56
* SAC PEAK	06 1618	N06 E70	MCNATH	12 1313	N20 W04	HAWAII	14 1820	S02 W58
LOCKHEED	06 1742	N17 E90	SAC PEAK	12 1314	N20 W04	LOCKHEED	14 1949	N12 E90
MCNATH	06 1747 E	N16 E90	MCNATH	12 1315	S14 E29	MCNATH	14 1955 E	N10 E88
LOCKHEED	06 1807	N18 E75	MCNATH	12 1450	N19 E16	LOCKHEED	14 2001	N19 E32
LOCKHEED	06 1814	N18 E73	MCNATH	12 1504	S05 W50	MCNATH	14 2051 E	N10 E88
* LOCKHEED	06 1900	N18 E73	MCNATH	12 1531	S14 E27	LOCKHEED	14 2051	N12 E90
LOCKHEED	06 2108	N21 E73	LOCKHEED	12 1535	N20 E59	LOCKHEED	14 2051	N12 E90
LOCKHEED	06 2206	N18 E73	LOCKHEED	12 1605	S21 E17	LOCKHEED	14 2106	N19 W18
SAC PEAK	06 2304 E	N20 E90	MCNATH	12 1606	N21 E16	LOCKHEED	14 2126	S01 W56
* LOCKHEED	06 2306	N18 E73	SAC PEAK	12 1615 E	N20 E17	SAC PEAK	14 2130 E	N01 W58
* SAC PEAK	06 2314 E	N06 E70	LOCKHEED	12 1718	N21 E15	LOCKHEED	14 2216	N21 E27
LOCKHEED	06 2345	N17 E71	LOCKHEED	12 1804	N18 E56	LOCKHEED	14 2307	N23 E30
			MCNATH	12 1920	S15 E25	LOCKHEED	14 2316	S13 E46
LOCKHEED	07 0001	N23 E90	LOCKHEED	12 1920	S15 E25			
HAWAII	07 0008 E	N24 E90	LOCKHEED	12 1923	S13 E82	LOCKHEED	15 0110	N18 E26
* LOCKHEED	07 0104	N21 E72	LOCKHEED	12 1923	S13 E82	CAPRI S	15 0725 E	N15 E57
* LOCKHEED	07 0131	N19 E81	MCNATH	12 2049	S05 E45	SAC PEAK	15 1334	S14 W18
* DNOREJDV	07 0831 E	N17 E64	LOCKHEED	12 2052 E	S05 E46	MCNATH	15 1334	S14 W17
* SAC PEAK	07 1305	N21 E64	LOCKHEED	12 2111	S23 W67	SAC PEAK	15 1348	N22 E23
SAC PEAK	07 1305 E	N20 E90	LOCKHEED	12 2136	S03 W31	MCNATH	15 1351	N21 E23
SAC PEAK	07 1358	N22 E85	MCNATH	12 2137	S03 W30	MCNATH	15 1406	S04 E22
* SAC PEAK	07 1734 E	N22 E63	MCNATH	12 2157	N21 W10	SAC PEAK	15 1408	S04 E23
SAC PEAK	07 1940 E	N16 E78	SAC PEAK	12 2200 E	N11 E90	MCNATH	15 1418	S04 E22
SAC PEAK	07 2200	N17 E58	LOCKHEED	12 2217	N13 E53	MCNATH	15 1428	N15 E61
HAWAII	07 2202	N14 E60	SAC PEAK	12 2220	N11 E52	SAC PEAK	15 1522	S11 E39
LOCKHEED	07 2202	N19 E57	LOCKHEED	12 2310	S12 E85	SAC PEAK	15 1522	S10 E39
MCNATH	07 2204 E	N17 E58	SAC PEAK	12 2318 E	N12 E90	* MCNATH	15 1547	S06 E01
LOCKHEED	07 2230	N18 E61	LOCKHEED	12 2346	N20 E12	* LOCKHEED	15 1550	S07 E02
						SAC PEAK	15 1552 D	N00 W68
LOCKHEED	08 0000	N22 E59	LOCKHEED	13 0112	S13 E82	HUANCAYO	15 1552	S00 W66
ARCETRI	08 0900 E	S16 E89	LOCKHEED	13 0212	S13 E82	MCNATH	15 1552	N01 W67
MCNATH	08 1215	N18 E49	* CAPRI S	13 1004 E	N22 E08	LOCKHEED	15 1552	N00 W68
LOCKHEED	08 1605 E	N20 E46	MCNATH	13 1132 E	N20 E50	CAPRI S	15 1552 E	S04 E05
LOCKHEED	08 2251	N21 E44	MCNATH	13 1136	N12 E88	MCNATH	15 1554	N21 E22
LOCKHEED	08 2331	N21 E44	* SAC PEAK	13 1302	N20 E05	SAC PEAK	15 1554	N22 E22
			* MCNATH	13 1320 E	N20 E05	HUANCAYO	15 1555 E	S07 E01
HAWAII	09 0031 E	N05 W25	MCNATH	13 1408	S13 E08	SAC PEAK	15 1624	N14 E60
* DNOREJDV	09 0608 E	N21 E58	SAC PEAK	13 1510	N20 E50	MCNATH	15 1625	N12 E60
HAWAII	09 1827	N23 E47	LOCKHEED	13 1510 U	N20 E49	LOCKHEED	15 1630	S11 E38
LOCKHEED	09 1924	N19 E54	CAPRI S	13 1520 E	N23 E53	SAC PEAK	15 1630	S11 E41
HAWAII	09 1940	N21 E31	MCNATH	13 1533	N22 W04	MCNATH	15 1631	S12 E40
LOCKHEED	09 1945	N18 E23	MCNATH	13 1558	N13 E75	HUANCAYO	15 1635	S10 E40
HAWAII	09 2022 E	N21 E31	LOCKHEED	13 1610	N24 E01	* LOCKHEED	15 1644	N21 W24
LOCKHEED	09 2043	N20 E53	LOCKHEED	13 1644	S04 W40	* MCNATH	15 1645	N21 W33
HAWAII	09 2044	N19 E53	SAC PEAK	13 1656	S04 W43	* LOCKHEED	15 1646	S15 W14
MCNATH	09 2045 E	N19 E53	MCNATH	13 1700	S04 W42	* MCNATH	15 1647	S14 W14
HAWAII	09 2204	N19 E53	LOCKHEED	13 1707	N17 E76	* MCNATH	15 1724	S11 E39
LOCKHEED	09 2205	N20 E53	SAC PEAK	13 1708	N18 E80	LOCKHEED	15 1724	S11 E39
LOCKHEED	09 2335	S13 E80	LOCKHEED	13 1718	N21 E44	* LOCKHEED	15 1725	S12 W15
LOCKHEED	09 2347	N20 E52	* LOCKHEED	13 1734	N20 E47	* SAC PEAK	15 1734	N20 E21
			* MCNATH	13 1736 E	N20 E48	LOCKHEED	15 1753	N10 E74
LOCKHEED	10 0005	S12 E80	SAC PEAK	13 1742	S13 E70	LOCKHEED	15 1753	N00 W68
HAWAII	10 0008 E	N19 E52	LOCKHEED	13 1742	S12 E70			
LOCKHEED	10 0019	S12 E80	MCNATH	13 1819	S11 E08			
LOCKHEED	10 0035	S12 E80	LOCKHEED	13 1834	N21 E47			
LOCKHEED	10 0035	S12 E80	LOCKHEED	13 1838	N22 W12			

COMBINEZ - STANDARDS - BOUNDER

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

AUGUST 1960

LOCKHEED	15	1759	N22 E20	SAC PEAK	16	2246	S07 W10	MCMAH	18	1844	E N19 W21
SAC PEAK	15	1800	N21 E20	LOCKHEED	16	2319	N25 W42	LOCKHEED	18	1844	N27 W67
MCMAH	15	1800	N26 E23	LOCKHEED	17	0112	N23 W41	MCMAH	18	1844	E S10 W03
HAWAII	15	1804	E N22 E21	HAWAII	17	0113	N23 W42	SAC PEAK	18	1850	N15 W31
LOCKHEED	15	1810	S01 W70	LOCKHEED	17	0142	U S13 W32	LOCKHEED	18	1925	S10 W40
HAWAII	15	1816	N18 W28	HAWAII	17	0144	E S14 W29	MCMAH	18	1927	S11 W41
MCMAH	15	1816	S11 E37	CAPRI S	17	0149	E S11 E16	LOCKHEED	18	1929	N18 W70
LOCKHEED	15	1818	S09 E36	SCHAUMS	17	0641	E S13 E18	LOCKHEED	18	1937	N14 E06
SAC PEAK	15	1820	S10 E37	* ONDREJOV	17	0725	S07 W15	MCMAH	18	1938	N13 E07
HAWAII	15	1820	S11 E38	* UCCLLE	17	0936	E N10 E58	LOCKHEED	18	2000	S08 W38
MCMAH	15	1842	S15 W18	* CAPRI S	17	0949	E N12 E54	LOCKHEED	18	2009	N23 W22
MCMAH	15	1912	S15 W18	* CAPRI S	17	0957	S11 E14	MCMAH	18	2010	N21 W21
LOCKHEED	15	1914	N00 W70	MCMAH	17	1238	S06 W16	LOCKHEED	18	2015	S10 W41
LOCKHEED	15	1925	S14 W19	CAPRI S	17	1240	E S05 W15	MCMAH	18	2017	S10 W41
HAWAII	15	1926	S16 W18	MCMAH	17	1252	N09 E46	LOCKHEED	18	2040	N15 W44
MCMAH	15	1927	S15 W18	* MCMAH	17	1305	N10 E52	LOCKHEED	18	2104	S11 W41
LOCKHEED	15	1933	S14 W22	* SAC PEAK	17	1314	U N10 E51	SAC PEAK	18	2200	N17 W76
MCMAH	15	1933	S14 W22	MCMAH	17	1317	S18 E90	LOCKHEED	18	2200	N17 W71
LOCKHEED	15	1934	N00 W70	* SAC PEAK	17	1446	S11 E78	LOCKHEED	18	2235	S19 E65
HAWAII	15	1935	E S16 W21	* MCMAH	17	1446	S09 E78	SAC PEAK	18	2236	S20 E67
LOCKHEED	15	1940	S07 W01	SAC PEAK	17	1456	S11 E14	LOCKHEED	18	2257	S10 W44
LOCKHEED	15	2002	S14 W19	SAC PEAK	17	1457	N20 W55	LOCKHEED	18	2310	N23 W22
SAC PEAK	15	2002	S15 W19	MCMAH	17	1527	S08 W17	LOCKHEED	18	2312	N13 W64
LOCKHEED	15	2003	S15 W19	* MCMAH	17	1541	E S08 E78	LOCKHEED	18	2323	N12 E28
LOCKHEED	15	2034	N21 W26	LOCKHEED	17	1545	U S11 E75	LOCKHEED	19	0030	N14 E07
LOCKHEED	15	2039	N03 W72	* SAC PEAK	17	1552	S11 E78	LOCKHEED	19	0032	N20 W39
MCMAH	15	2052	N03 W70	SAC PEAK	17	1558	S10 W32	LOCKHEED	19	0105	S10 W05
LOCKHEED	15	2100	S14 W15	* LOCKHEED	17	1613	E S11 E11	LOCKHEED	19	0122	N11 W31
LOCKHEED	15	2125	E S14 E73	* MCMAH	17	1617	S10 E13	LOCKHEED	19	0125	N13 E29
MCMAH	15	2130	N05 E76	LOCKHEED	17	1645	S11 E75	SAC PEAK	19	1406	N16 W82
* LOCKHEED	15	2130	S07 E01	MCMAH	17	1720	E S09 E76	* CAPRI S	19	1408	E N15 W03
* MCMAH	15	2131	S07 W00	SAC PEAK	17	1722	E S12 W48	* MCMAH	19	1408	N15 W44
SAC PEAK	15	2132	E S12 E36	SAC PEAK	17	1726	S11 E78	SAC PEAK	19	1426	N17 W88
LOCKHEED	15	2140	S01 W73	SAC PEAK	17	1804	S11 E78	UCCLLE	19	1449	E N15 W87
LOCKHEED	15	2150	N19 W30	* LOCKHEED	17	1808	N21 W59	LOCKHEED	19	1468	S14 W68
MCMAH	15	2150	N20 W30	* MCMAH	17	1808	N10 E46	SAC PEAK	19	1550	E S19 W67
LOCKHEED	15	2200	S12 E36	LOCKHEED	17	1911	S10 E11	SAC PEAK	19	1550	N17 W88
MCMAH	15	2201	S11 E37	LOCKHEED	17	1922	N26 W46	LOCKHEED	19	1550	N17 W85
LOCKHEED	15	2218	S07 E00	LOCKHEED	17	1922	N26 W46	MCMAH	19	1606	N21 W33
MCMAH	15	2219	S07 W01	LOCKHEED	17	1926	N14 E27	LOCKHEED	19	1626	N17 W85
LOCKHEED	15	2244	N13 E11	MCMAH	17	1926	N14 E27	LOCKHEED	19	1631	N21 W33
LOCKHEED	15	2246	S13 E16	SAC PEAK	17	1930	N13 E28	MCMAH	19	1633	N20 W33
HAWAII	15	2246	S13 W16	LOCKHEED	17	1955	S11 E75	LOCKHEED	19	1712	N18 W85
SAC PEAK	15	2248	S13 W16	LOCKHEED	17	1955	S11 E75	LOCKHEED	19	1737	N21 W42
SAC PEAK	15	2250	N10 E75	LOCKHEED	17	2010	S09 E11	MCMAH	19	1741	N20 W41
LOCKHEED	15	2250	N00 W70	LOCKHEED	17	2024	N20 W56	HAWAII	19	1749	E S19 E57
SAC PEAK	15	2254	S01 W74	MCMAH	17	2109	S18 E85	* LOCKHEED	19	1803	N18 W85
HAWAII	15	2254	S01 W70	LOCKHEED	17	2112	S11 E09	* LOCKHEED	19	1803	N18 W85
LOCKHEED	16	0010	S12 W20	LOCKHEED	17	2112	S11 E09	LOCKHEED	19	1939	N20 W44
LOCKHEED	16	0033	S15 W24	MCMAH	17	2113	S10 E12	LOCKHEED	19	2004	S08 W52
HAWAII	16	0058	S17 W19	HAWAII	17	2125	E S11 E12	LOCKHEED	19	2010	S11 W19
LOCKHEED	16	0058	S16 W21	HAWAII	17	2132	S10 E09	LOCKHEED	19	2020	N17 W80
LOCKHEED	16	0109	S12 W18	MCMAH	17	2217	N12 E18	HAWAII	19	2042	S20 E57
HAWAII	16	0132	E S13 W27	MCMAH	17	2238	S10 E10	LOCKHEED	19	2044	S18 E53
ARCETRI	16	1002	E N20 W40	LOCKHEED	17	2238	S11 E09	LOCKHEED	19	2103	S08 W21
STOCKHOLM	16	1002	E N20 W30	LOCKHEED	17	2238	S11 E09	* LOCKHEED	19	2130	N17 W80
CAPRI S	16	1011	S11 E29	SAC PEAK	17	2250	S11 E73	* SAC PEAK	19	2135	E N17 W88
CAPRI S	16	1014	E N10 E68	SAC PEAK	17	2250	S11 E73	LOCKHEED	19	2223	S07 W54
WENDEL	16	1026	E S07 E01	LOCKHEED	17	2310	S11 E72	SAC PEAK	19	2224	S09 W54
WENDEL	16	1027	E N12 E65	SAC PEAK	17	2324	U S11 E73	LOCKHEED	19	2241	N18 W08
CAPRI S	16	1056	E S05 W06	HAWAII	17	2342	E S11 E73	LOCKHEED	19	2331	N16 W08
CAPRI S	16	1104	N19 W35	LOCKHEED	18	0119	S11 E07	LOCKHEED	20	0010	N18 W85
* SCHAUMS	16	1208	E N08 E58	ARCETRI	18	0909	E S10 E04	LOCKHEED	20	0016	S18 E50
* MCMAH	16	1224	N10 E65	CAPRI S	18	1137	E S08 E04	HAWAII	20	0022	S18 E50
MCMAH	16	1347	S11 E26	SAC PEAK	18	1308	N21 W27	LOCKHEED	20	0052	N17 W90
MCMAH	16	1414	S07 W12	* SAC PEAK	18	1344	N18 W46	LOCKHEED	20	0132	S07 W22
* MCMAH	16	1525	S07 W11	SAC PEAK	18	1358	N23 W18	LOCKHEED	20	0137	N16 W43
* CAPRI S	16	1530	E S05 W08	UCCLLE	18	1400	N23 W16	LOCKHEED	20	0145	S12 W21
* SCHAUMS	16	1533	E S06 W09	SAC PEAK	18	1400	N08 E38	WENDEL	20	0824	E S06 W50
* HUANCAYO	16	1555	S11 W18	CAPRI S	18	1402	E N23 W16	WENDEL	20	0943	E S21 W43
* MCMAH	16	1558	S10 W20	SAC PEAK	18	1402	S09 E01	ONDREJOV	20	1027	E S12 W80
* LOCKHEED	16	1601	N23 W49	SAC PEAK	18	1406	N18 W66	MCMAH	20	1325	N20 W90
* MCMAH	16	1602	N23 W46	CAPRI S	18	1406	S08 E03	SAC PEAK	20	1336	E N18 W90
* SCHAUMS	16	1605	N21 W49	* SAC PEAK	18	1430	S09 E01	SAC PEAK	20	1506	S10 W27
LOCKHEED	16	1655	S12 E26	LOCKHEED	18	1530	U S10 E01	LOCKHEED	20	1555	S11 W27
LOCKHEED	16	1656	S10 E25	* SAC PEAK	18	1538	S12 W54	LOCKHEED	20	1640	S19 E43
LOCKHEED	16	1834	S06 W14	MCMAH	18	1555	S10 E03	LOCKHEED	20	1659	S13 W80
MCMAH	16	1834	E S07 W13	LOCKHEED	18	1600	N17 W68	LOCKHEED	20	1718	S11 W27
LOCKHEED	16	1842	N14 W01	LOCKHEED	18	1604	S10 W38	SAC PEAK	20	1730	N13 W52
MCMAH	16	1853	N14 E34	MCMAH	18	1604	S10 W37	LOCKHEED	20	1730	N14 W53
LOCKHEED	16	1854	N15 E35	SAC PEAK	18	1606	S11 W38	MCMAH	20	1737	N11 E08
MCMAH	16	1859	S11 E24	LOCKHEED	18	1609	N20 W20	MCMAH	20	1737	N14 W53
LOCKHEED	16	1900	S11 E24	SAC PEAK	18	1648	N22 W20	LOCKHEED	20	1921	S10 W30
LOCKHEED	16	1939	S11 E24	LOCKHEED	18	1648	N22 W21	MCMAH	20	1922	S10 W30
SAC PEAK	16	2018	E N08 E56	MCMAH	18	1648	E N20 W20	LOCKHEED	20	1950	N20 W90
LOCKHEED	16	2018	N10 E55	MCMAH	18	1649	S11 E01	LOCKHEED	20	2005	N14 W54
HAWAII	16	2019	N10 E57	LOCKHEED	18	1649	S11 E01	LOCKHEED	20	2106	S12 W90
MCMAH	16	2025	N12 E34	SAC PEAK	18	1658	S11 W40	SAC PEAK	20	2232	S11 W30
LOCKHEED	16	2027	N13 E33	MCMAH	18	1659	E N13 E08	LOCKHEED	20	2233	S11 W30
LOCKHEED	16	2035	N13 E35	LOCKHEED	18	1659	S11 E39	SAC PEAK	20	2258	S10 W31
MCMAH	16	2037	N12 E37	MCMAH	18	1659	E S11 W40	LOCKHEED	20	2259	S10 W30
HAWAII	16	2041	N13 E37	LOCKHEED	18	1727	S11 E01	* ARCETRI	21	1005	E S11 E26
SAC PEAK	16	2050	E N13 E37	MCMAH	18	1728	S10 W00	* SAC PEAK	21	1334	N25 W90
HAWAII	16	2052	N13 E35	LOCKHEED	18	1736	S17 E67	* SAC PEAK	21	1350	S07 W76
MCMAH	16	2120	S11 E27	MCMAH	18	1745	E N13 E34	* SCHAUMS	21	1354	E S05 W75
LOCKHEED	16	2121	S11 E27	HAWAII	18	1748	E N13 E09	SCHAUMS	21	1521	S11 W37
MCMAH	16	2201	N08 E55	LOCKHEED	18	1810	N17 W69	* MCMAH	21	1601	E N26 W03
LOCKHEED	16	2203	N09 E59	LOCKHEED	18	1826	N13 E32	* SAC PEAK	21	1618	S10 W90
SAC PEAK	16	2206	E N10 E55	LOCKHEED	18	1837	S11 W02	LOCKHEED	21	1826	S09 E19
MCMAH	16	2207	S14 W34	LOCKHEED	18	1838	N21 W20	LOCKHEED	22	0033	S12 W47
MCMAH	16	2214	N14 E34								
LOCKHEED	16	2217	N15 E32								
SAC PEAK	16	2226	N17 E36								
MCMAH	16	2240	S08 E12								

COMBINE - STANDARDS - BOLDER

Noted as follows: Date-Universal Time - Coordinates

AUGUST 1960

SCHAUINS	22	0634 E	N21 W75	* SAC PEAK	26	1354	N07 E14	* MCMATH	28	1947 E	N08 W27
WENDEL	22	0640 E	N17 W70	* MCMATH	26	1356	N08 E15	LOCKHEED	28	2009	N12 E78
WENDEL	22	0640 E	S15 W50	* CAPRI S	26	1405 E	N09 E23	MCMATH	28	2014 E	N12 E80
* CAPRI S	22	0702 E	S09 E15	* SAC PEAK	26	1432	N18 W90	LOCKHEED	28	2023	S12 W74
SCHAUINS	22	1151	S10 E12	MCMATH	26	1440	N20 W90	LOCKHEED	28	2104	S01 W78
MCMATH	22	1634	N12 W46	CAPRI S	26	1507	S18 W34	LOCKHEED	28	2124	N19 E35
SCHAUINS	22	1635 E	N12 W40	MCMATH	26	1521	S18 W37	LOCKHEED	28	2135	S01 W78
SCHAUINS	22	1717 E	N10 W20	WENDEL	26	1521 E	S18 W38	LOCKHEED	28	2240	S03 W78
LOCKHEED	22	2331	N10 W27	MCMATH	26	1552	N08 W56	SAC PEAK	28	2308	N16 W12
CAPRI S	23	0635 E	S11 E38	* MCMATH	26	1552	N22 W40				
MCMATH	23	1230	N13 W30	WENDEL	26	1554 E	N07 W55	LOCKHEED	29	0008	N19 E36
* SAC PEAK	23	1604	S18 E03	CAPRI S	26	1555	N08 W53	LOCKHEED	29	0050	N17 W14
* MCMATH	23	1604	S18 E04	MCMATH	26	1637	S04 W40	HAWAII	29	0059 E	N18 W12
MCMATH	23	1759 E	S18 E04	* MCMATH	26	1700	N15 W90	* LOCKHEED	29	0125	N18 E33
MCMATH	23	1759 E	S11 W70	* MCMATH	26	1703	N19 W90	* CAPRI S	29	1000 E	S19 E06
LOCKHEED	23	2208	N04 W22	MCMATH	26	1708	S18 W38	SAC PEAK	29	1512	S17 W04
LOCKHEED	23	2230	S08 W74	MCMATH	26	1746	S18 W38	LOCKHEED	29	1537	S19 W53
LOCKHEED	23	2235	N18 W56	LOCKHEED	26	1835	S17 W40	SAC PEAK	29	1624	S04 W88
SAC PEAK	23	2308	N15 W39	LOCKHEED	26	1928	N17 W90	SAC PEAK	29	1654	S03 W89
LOCKHEED	23	2310	N15 W35	LOCKHEED	26	2007	S04 W45	LOCKHEED	29	1745	N19 E22
LOCKHEED	23	2319	N28 W33	MCMATH	26	2008 E	S04 W45	* MCMATH	29	1913	N20 E25
SAC PEAK	23	2320	N27 W32	LOCKHEED	26	2010	N05 W62	LOCKHEED	29	2145	N19 E18
LOCKHEED	23	2340	N18 W56	MCMATH	26	2011	N08 W60	LOCKHEED	29	2145	S20 W58
				LOCKHEED	26	2028	S03 W47	HAWAII	29	2202	S19 W58
				LOCKHEED	26	2028	S03 W47	LOCKHEED	29	2207	N20 E23
LOCKHEED	24	0004	N18 W56	LOCKHEED	26	2058	S03 W46	LOCKHEED	29	2217	S19 W11
LOCKHEED	24	0028	N18 W56	LOCKHEED	26	2130	S03 W47	HAWAII	29	2220 E	S19 W09
LOCKHEED	24	0118	N15 W35	LOCKHEED	26	2224	S03 W48	LOCKHEED	29	2242	N19 E21
LOCKHEED	24	0118	N18 W56	LOCKHEED	26	2225	N21 W90				
LOCKHEED	24	0120	N05 W24	LOCKHEED	26	2244	S08 W50	ISTANBUL	30	0806	N19 E17
ISTANBUL	24	0705	N05 W29	HAWAII	26	2249	S09 W59	CAPRI S	30	1050 E	S14 W13
ONOREJOV	24	1047 E	N27 W32	LOCKHEED	26	2245	N10 W50	MCMATH	30	1149	N17 E14
MCMATH	24	1214	S10 W15	LOCKHEED	26	2303	S09 W53	SAC PEAK	30	1416	S16 W19
MCMATH	24	1302	N06 W50	HAWAII	26	2306	S18 W45	MCMATH	30	1435	N17 E11
CAPRI S	24	1310 E	N08 W20	LOCKHEED	26	2309	S18 W45	CAPRI S	30	1443	N19 E10
MCMATH	24	1403	S10 W15	LOCKHEED	26	2323	S03 W48	SAC PEAK	30	1456	S17 E14
* MCMATH	24	1447	S19 W08	LOCKHEED	26	2345	S09 W52	MCMATH	30	1456	N17 E11
* CAPRI S	24	1450 E	S18 W07					LOCKHEED	30	1528	N18 E10
* MCMATH	24	1639	N25 W40	LOCKHEED	27	0014	S18 W42	LOCKHEED	30	1538	N18 E13
* HUANAYO	24	1644 E	N27 W36	LOCKHEED	27	0103	S03 W49	LOCKHEED	30	1559	N21 E14
LOCKHEED	24	1821	S19 W10	WENDEL	27	0730 E	S03 W46	MCMATH	30	1600	N20 E15
MCMATH	24	1823 E	S20 W29	WENDEL	27	0806 E	N25 W39	LOCKHEED	30	1628	N19 E09
LOCKHEED	24	1945	N17 W68	* ARCTETRI	27	0831 E	S03 W58	LOCKHEED	30	1713	N18 E08
LOCKHEED	24	2155	N17 W68	WENDEL	27	1023 E	S02 W55	LOCKHEED	30	1756	S18 W18
LOCKHEED	24	2358	N17 W71	* WENDEL	27	1058 E	S08 W53	LOCKHEED	30	1806	N18 E09
				* WENDEL	27	1111 E	S03 W57	MCMATH	30	1810	N18 E10
LOCKHEED	25	0149	S17 W16	* WENDEL	27	1132 E	S03 W57	MCMATH	30	1903	S16 W22
WENDEL	25	0730 E	N25 W15	MCMATH	27	1132	N22 E21	LOCKHEED	30	1919	N26 W85
WENDEL	25	0736 E	S06 W20	MCMATH	27	1136	N17 E27	LOCKHEED	30	1919	N26 W85
CAPRI S	25	0807	N17 W74	MCMATH	27	1147	N28 E37	MCMATH	30	1927	N19 W77
WENDEL	25	0816 E	N16 W70	CAPRI S	27	1153 E	S18 W47	LOCKHEED	30	2032	N18 E08
SCHAUINS	25	0840 E	N04 W43	WENDEL	27	1233 E	N19 E53	MCMATH	30	2034	N18 E08
* CAPRI S	25	1016 E	S05 W22	* MCMATH	27	1236	S03 W58	MCMATH	30	2115	N17 E10
SCHAUINS	25	1221	S06 W27	* WENDEL	27	1247 E	S03 W57	LOCKHEED	30	2210	N17 W40
* MCMATH	25	1305 E	N16 W90	* MCMATH	27	1312	S03 W58	LOCKHEED	30	2339	N18 E08
* DNDREJOV	25	1305	N17 W80	* WENDEL	27	1315 E	S03 W57				
SCHAUINS	25	1305	N16 W85	* SAC PEAK	27	1400	S18 W51	UCCLE	31	0937 E	N18 E04
* SAC PEAK	25	1310	N18 W86	* MCMATH	27	1401	S12 W61	UCCLE	31	1042 E	N18 E05
* SAC PEAK	25	1428 E	S04 W28	* WENDEL	27	1421 E	S03 W57	CAPRI S	31	1045 E	N18 E03
MCMATH	25	1428	S05 W28	WENDEL	27	1524 E	S03 W57	LOCKHEED	31	1220	S11 W15
* SAC PEAK	25	1500	S06 W28	LOCKHEED	27	1630	S03 W60	MCMATH	31	1225	S17 W31
* MCMATH	25	1507	S07 W29	LOCKHEED	27	1724	S03 W60	MCMATH	31	1305	N18 E03
* MCMATH	25	1529	S05 W28	HAWAII	27	1724	S03 W60	SAC PEAK	31	1306	N18 E03
* SAC PEAK	25	1530	S03 W29	MCMATH	27	1736	S03 W61	UCCLE	31	1312	N18 E05
SAC PEAK	25	1600	N20 E85	HAWAII	27	1835	N18 E51	MCMATH	31	1328	S11 W15
MCMATH	25	1601	N20 E80	MCMATH	27	1835	N03 W70	* MCMATH	31	1414	S16 W33
MCMATH	25	1654	S12 W33	LOCKHEED	27	1839	N28 W77	* MCMATH	31	1424	S18 W27
SAC PEAK	25	1718	S03 W29	LOCKHEED	27	1905	S04 W62	SAC PEAK	31	1512	N18 W02
MCMATH	25	1718	S05 W28	SAC PEAK	27	1912	S02 W63	LOCKHEED	31	1615	N19 E00
LOCKHEED	25	1745	S03 W32	MCMATH	27	1915	S03 W62	MCMATH	31	1618	N18 W00
LOCKHEED	25	1745	S03 W32	LOCKHEED	27	1919	N20 E49	LOCKHEED	31	1635	N17 W49
MCMATH	25	1748	S05 W28	MCMATH	27	1921	N19 E50	MCMATH	31	1635	N15 W50
SAC PEAK	25	1814	S04 W31	LOCKHEED	27	1954	S01 W63	* MCMATH	31	1648	N18 W02
LOCKHEED	25	1846	S03 W32	MCMATH	27	1956	S03 W63	LOCKHEED	31	1745	S18 W38
LOCKHEED	25	1920	S06 W31	LOCKHEED	27	2022	S03 W65	LOCKHEED	31	1745	S18 W38
MCMATH	25	1921	S05 W30	LOCKHEED	27	2022	S03 W65	LOCKHEED	31	1912	S17 W35
LOCKHEED	25	1952	S03 W33	LOCKHEED	27	2022	S03 W65	LOCKHEED	31	1912	S17 W35
HUANAYO	25	1954	S02 W33	MCMATH	27	2028	S03 W63	LOCKHEED	31	1955	S18 W38
MCMATH	25	1955	S04 W31	MCMATH	27	2047	S04 W54	LOCKHEED	31	1955	S18 W38
SAC PEAK	25	1956 U	S04 W32	LOCKHEED	27	2053	S21 W57	LOCKHEED	31	1955	N18 W38
LOCKHEED	25	2012	S10 W35	SAC PEAK	27	2114 E	S02 W63	LOCKHEED	31	1959	S10 W20
LOCKHEED	25	2043	N26 W21	LOCKHEED	27	2140	S15 W54	LOCKHEED	31	2051	N17 W55
MCMATH	25	2047 E	N25 W21	HAWAII	27	2142	S04 W51	LOCKHEED	31	2110	S17 W39
HAWAII	25	2048	N27 W20	MCMATH	27	2145	S16 W53	LOCKHEED	31	2110	S17 W39
LOCKHEED	25	2052	S03 W33	LOCKHEED	27	2205	N27 W77	LOCKHEED	31	2110	S17 W39
LOCKHEED	25	2052	S03 W33	LOCKHEED	27	2217	S15 W54	SAC PEAK	31	2136 U	N17 E00
SAC PEAK	25	2054 U	N26 W21	MCMATH	27	2218	S16 W53	MCMATH	31	2139	N16 E90
MCMATH	25	2110	S16 W25	LOCKHEED	27	2220	S02 W67	SAC PEAK	31	2202	S16 W41
MCMATH	25	2113	S05 W33	LOCKHEED	27	2254	S02 W67	LOCKHEED	31	2222	N19 W04
MCMATH	25	2140	S05 W33	LOCKHEED	27	2345	S15 W55	SAC PEAK	31	2224	N18 W03
LOCKHEED	25	2150	S03 W33					HAWAII	31	2224	N19 W02
SAC PEAK	25	2236	S18 W28	LOCKHEED	28	0007	N24 W54	MCMATH	31	2224	N18 W04
LOCKHEED	25	2306	S03 W33	HAWAII	28	0050 E	N18 E57				
				LOCKHEED	28	0056	N20 E47	COMMENCE - STANDARD - BOLTER			
WENDEL	26	0718 E	N15 W28	* CAPRI S	28	0638 E	S17 E13				
* ARCTETRI	26	0826 E	N19 W89	WENDEL	28	0830 E	S18 E16				
CAPRI S	26	0845 E	N27 W27	SAC PEAK	28	1336	S10 W78				
WENDEL	26	0910 E	N16 W61	SAC PEAK	28	1438	S11 W80				
* MCMATH	26	1205	N23 W29	MCMATH	28	1441	N20 E40				
WENDEL	26	1215 E	S10 W42	MCMATH	28	1546	N20 E38				
MCMATH	26	1223	N18 W90	MCMATH	28	1643	N20 E38				
MCMATH	26	1236	N18 W90	LOCKHEED	28	1808	N19 E37				
MCMATH	26	1321	N18 W90	* MCMATH	28	1855	S16 E09				
MCMATH	26	1331	N15 W90	* LOCKHEED	28	1913	N09 W27				
SAC PEAK	26	1338 E	N18 W90	* MCMATH	28	1919 E	N08 W27				

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F 193 Part B for September 1960).

SOLAR FLARES

JUNE 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			MAX. WIDTH H _g	MAX. INT. % I _o	PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.				MC-MATH FLARE REGION	TIME — U T	MEAS. AREA Sq. Deg.				CORR. AREA Sq. Deg.
{ NIZAMIAH SIMEIZ KRASNYA PIRCULI UCCLE MOSCOW G PIRCULI KIEV	JUNE 1960													S-SWF	
	01	0536	0543	N28	E47	5680	7	1	2	0538	1.52	2.52	1.50	156	
	01	0828 E		N28	E47	5680	□	3	2	0850	40.80			187	
	01	0832	1020 D	N27	E45	5680	108 D	3	2		24.48			120	
	01	0838 E	1015	N30	E46	5680	97 D	3	2	0857	25.71	42.60			
	01	0838 E	1130 D	N30	E47	5680	172 D	3+	3	0851	16.00	27.00			
	01	0858 E	1122 D	N31	E46	5680	144 D	2+	1	0901	18.49	30.14	3.70	250	
	01	0905	0920	S18	W07	5677	15	1+	2	0908	6.89	7.24		54	
	01	1045 E	1300 D	N27	E42	5680	135 D	2	1	1045	5.19			48	
	03	1105 E	1107 D	S13	W07	5679	2 D	1	1	1107	3.64			42	
{ MITAKA TASHKENT	06	0452 E	0518	N33	W10	5680	26 D	1	1	0504	2.57	3.21	2.23	100	
	06	0455	0540	N32	W11	5680	45	1	2	0458	3.30	4.00			
ABASTUMANI KHARKOV	07	0603 E	0610 D	N28	W39	5680	7 D	1	3		.90	1.30		53	
	07	1006 E	1027 D	N25	W43	5680	21 D	1	2	1020	3.43	5.16	1.20		
{ ABASTUMANI SIMEIZ UCCLE	08	0514 E	0552 D	N16	E60	5693	38 D	1+	3		1.99	4.20		70	
	08	0735	0840 D	N34	W35	5680	65 D	2+	3		10.88	16.70		108	
	08	0736 E	0855 D	N34	W37	5680	79 D	1+	2	0745	10.88			113	
	{ SIMEIZ	08	0756 E	S10	W68	5679	54 D	1	2	0807	1.82			76	
	{ ABASTUMANI	08	0758	S09	W68	5679	24	2	3		1.82	6.60		85	
	UCCLE	08	0820 E	N33	W33	5680	□	□	4						
	NIZAMIAH	09	0442	N36	W51	5680	23	1+	1	0449	1.82	3.55	1.70	50	
	PIRCULI	09	0555 E	S10	E85	5695	40 D	1	3	0618	.91	4.66			
{ ABASTUMANI KODAIKNL PIRCULI KHARKOV KHARKOV KRASNYA MOSCOW G PIRCULI KIEV	10	0506 E	0802 D	N03	W65	5687	176 D	2+	3	0645	8.16	22.40	3.00	84	
	10	0510 E	0525 D	N31	W56	5680	15 D	2	3	0520	4.20	7.50	1.70	122	
	10	0512 E	0528 D	N32	W61	5680	16 D	2	3	0518	6.89	15.70		75	
	10	0535 E	0710 D	N30	W61	5680	95 D	2	2	0636	9.14	18.10	3.20		
	10	0542 E	0628 D	S08	E72	5695	46 D	1	2	0543	3.43	7.70	1.70	90	
	10	0925	1009 D	N30	W65	5680	44 D	2	2		4.53				
	10	0936 E	1022 D	N29	W63	5680	46 D	1	2	0945	1.59	3.94	3.40	100	
	10	0940 E	1011 D	N10	W54	5688	31 D	1	1	0951	2.75	4.57		56	
	10	1159 E	1215 D	S12	E64	5695	16 D	1	1	1201	.73			63	
	10	1159 E	1217 D	N10	W90	5687	18 D	1+	1	1202				66	
VOROSHILOV	11	2134	2140	N30	W83	5680	6	1	1		.54			74	
	12	0436	0611 D	S16	E55	5695	95 D	1+	2		8.31	15.00			
{ TASHKENT MITAKA SIMEIZ	12	0525 E	0534 D	S09	E51	5695	9 D	1	1	0525	3.08	4.99	1.85	102	
	12	0754 E	0801 D	N31	W90	5680	7 D	1	2	0756	.73				
{ PIRCULI PIRCULI ABASTUMANI ABASTUMANI SIMEIZ UCCLE	13	0529 E	0650 D	N26	W85	5699	81 D	1+	1	0614	2.30	11.70		52	
	13	0550 E	0650 D	S20	W18	5696	60 D	1	1	0614	3.68	4.16		70	
	13	0602 E	0812 D	S20	W20	5696	130 D	1+	3		2.30			59	
	13	0650 E	0812 D	N18	W28	5693	82 D	2	3		8.16	9.90		105	
	13	0736 E	0812 D	N19	W28	5693	36 D	1	2	0736	2.72			100	
	13	1710	1738 D	N18	W32	5693	28 D	2	3		7.00	8.00			
VOROSHILOV	14	0004	0040 D	N19	W37	5693	36 D	1+	2		3.16			129	

SOLAR FLARES

JUNE 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX.	LAT.	MER. DIST.				TIME	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g		MAX. INT. %
{ MITAKA KIEV KIEV KIEV	14	0005 E	0028 D	0009		N18 W34	5693	23 D	1+	1	0009	4.11	5.26	3.19	149	Slow S-SWF
	14	1055 E	1120 D			N13 W29	5693	25 D	1+		1055	3.64			77	
	14	1243 E	1315 D	1252		S10 E15	5695	32 D	1+	2	1252	2.60			46	
	14	1334 E	1413 D	1337		S12 E13	5695	39 D	2		1337	5.71			66	
{ TASHKENT TASHKENT ABASTUMANI PIRCULI	15	0248	0349	0301		N18 W13	5694	61	1	3	0301	2.66	3.00		150	
	15	0251	0339	0254		N22 W53	5693	48	3	3	0254	7.89	13.00		65	
	15	0548 E	0806 D	0653 U		S11 E08	5695	138 D	1+	3		8.16	8.60		112	
	15	0652 E	0850 D	0706 U		S11 E09	5695	118 D	2	1	0706	11.02	11.40		99	
{ KIRASNYA KIRASNYA PIRCULI UCCLE	15	0703 E	0809	0709		S12 E08	5695	66 D	1	1		3.17			84	
	16	0647	0715 D	0653 U		S12 W01	5695	28 D	1+	2	0653	6.35			70	
	16	0648 E	0705 D	0701 U		S12 E00	5695	17 D	1	2		2.30			73	
	16	0648	0709	0653		S12 W02	5695	21	1	2		4.53	2.30		85	
{ KIRASNYA KIRASNYA PIRCULI VOROSHILOV	16	0655 E	0706			S11 W02	5695	11 D	1+	2	0655	7.25			70	
	16	0728 E	0736	0737		N16 E71	5706	8 D	1			2.72			67	
	16	0829 E	0850	0832 U		S13 W08	5695	21 D	1	2		2.20	6.60		87	
	16	1340 E				N21 W70	5693	□	1+	2		3.00			85	
{ VOROSHILOV VOROSHILOV NIZAMIAH KIRASNYA	16	2254	2333	2308		S12 W18	5695	39	1+	1		2.25			75	
	17	0024	0042 D	0029		N17 W37	5694	18 D	1+	2		1.90	3.69	1.80	66	
	17	0932	0948	0938		N20 E59	5706	16	1+	2	0938	1.82			75	
	17	0937	0954 D			N17 E58	5706	17 D	1	3	0954	2.29				
{ VOROSHILOV TASHKENT PIRCULI ABASTUMANI	18	0017 E	0026 D			S09 W35	5695	9 D	1	2	0018	2.25	3.00			
	18	0539	0600	0541		N19 W50	5694	21	1	2	0541	1.84			75	
	19	1026 E	1105	1046		N22 E89	5713	39 D	1+	1		1.84	7.90		56	
	19	1043	1058	1047		N20 E90	5713	15	1+	1		3.89			80	
{ SIMEIZ PIRCULI TASHKENT PIRCULI	20	0640 E	0740 D	0644 U		S13 W66	5695	60 D	1	2	0644	1.27			86	
	20	0945	1007	0955		S15 W65	5695	22	2+	2		5.97				
	23	0329	0344	0332		N12 W23	5706	15	1	3	0332	1.19	1.00		96	
	24	0915	0950	0925		N10 W40	5706	35	1+	3	0930	2.01	2.16	1.70		
{ KIRKOV ALMA-ATA ALMA-ATA ABASTUMANI	24	0923	0945 D			N10 W39	5706	22 D	1	1		1.71			66	
	25	0414 E		0414		N22 E11	5713	□	1	2	0414	3.69			74	
	25	0414 E	0434	0414		S10 E60	5719	20 D	1+	2	0414	2.75			80	
	25	0708	0805	0711		N21 E10	5713	57	1+	3		4.99	5.40		100	
{ MOSCOW G PIRCULI PIRCULI KIEV	25	0715	0731	0716		N21 E08	5713	16	2			9.37			120	
	25	1027 E	1046 D			N18 E04	5713	19 D	1	2	1030	3.71	3.83	3.73	148	
	25	1027 E	1046	1029		N20 E04	5713	19 D	1+	2		4.59			130	
	25	1131 E	1204 D	1204		N21 E06	5713	33 D	3	1	1204	12.46			220	
{ MOSCOW G ALMA-ATA ALMA-ATA PIRCULI	25	1133 E	1300 D			N19 E09	5713	87 D	2	2	1202	16.94	17.81	2.87		
	26	0428	0439 D	0434		N20 W06	5713	11 D	2+	2	0434	5.76			200	
	26	0433	0439 D	0435		N22 W07	5713	6 D	1+	2	0435	1.14			118	
	26	0435 E	0439 D	0435		N23 E00	5713	7 D	1	2	0449	4.15			59	
{ ALMA-ATA PIRCULI	26	0435 E	0525	0437 U		N18 W09	5713	50 D	3	1		27.54			150	

SOLAR FLARES

JUNE 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURATION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH H _g	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	M-RATH PLAGE REGION				TIME U T	MEAS. AREA Sq. Deg.			
PIRCULI	26	0517	0525	N15 W65	5706	8	1			1.84		68	
PIRCULI	26	0520	0537	N29 E85	5724	17	1			1.19		76	
{ SIMEIZ	26	0748	0845	N20 W09	5713	57 0	1	2	0752	3.62		66	
UCCLE	26	0940	1004	N18 W05	5713	9	1			2.50	2.50		
UCCLE	26	1027	1036	N08 E38	5720	9	1			2.00	2.50		
KIEV	26	1300	1308	N14 W68	5706	8 0	1	4	1301	2.08		50	
KIEV	26	1300	1316	N08 E37	5720	16 0	1		1302	2.29		66	
TASHKENT	27	0418	0615	N22 W19	5713	117	1	1	0429	4.95	6.00	100	
ALMA-ATA	27	0433	0520	N23 W18	5713	29	1	2	0433	4.62		104	
ALMA-ATA	27	0451	0531	N11 W81	5706	11 0	1	2	0502	3.69		61	
ALMA-ATA	27	0520	0601	S16 W82	5707	11 0	1	2	0531	1.82		58	
ABASTUMANI	27	0603	0825	N19 W18	5713	142 0	1	1	0601	6.35	6.00	63	
ABASTUMANI	27	0719	0825	N11 E24	5706	66 0	1	1		0.90	6.50	54	
ABASTUMANI	27	0755	0825	N11 E24	5720	30 0	1	1	0757	3.43	3.60	92	
ABASTUMANI	27	0755	0825	N09 E25	5720	30 0	1	1		3.62	4.00	55	
KIEV	27	1114	1135	N23 W23	5713	21 0	1	1	1125	4.15		65	
KIEV	27	1150	1157	N12 W88	5706	7 0	1	1	1157	1.04		65	
ALMA-ATA	28	0340	0340	S17 E33	5725	15 0	1	1	0340	4.62		65	
PIRCULI	28	0433	0448	N09 E75	5726	15 0	1	2		0.91		56	
UCCLE	28	0837	1234	S15 E33	5725	174 0	1	3		4.13		66	
UCCLE	28	1214	1234	N24 E51	5724	20	1	4	1216	2.00	2.50		
VOROSHILOV	29	0100	0104	N23 W38	5713	4	1	2		3.61		68	
VOROSHILOV	29	0129	0129	N22 W43	5713	27 1	1	2		3.34		74	
VOROSHILOV	29	0127	0247	N10 E03	5720	80	1	2		2.80		93	
VOROSHILOV	29	0142	0146	N19 W44	5713	4	1	2		1.71		120	
{ ABASTUMANI	29	0617	0800	N28 E45	5724	103 0	1	3		1.82	2.80	66	
PIRCULI	29	0725	0742	N17 E44	5724	17 0	1	4	1045	3.68	6.30	68	
UCCLE	29	1042	1045	N30 E43	5724	17 0	1	2		4.50			
UCCLE	29	1458	1600	S12 E71	5729	46	1	2		2.89		74	
MEUDON	29	1514	2229	N26 E30	5724	25 0	1	2	2205	2.11	2.00		
VOROSHILOV	29	2204	2229	N28 E27	5724	26	1	2	0240	3.95	6.00		
TASHKENT	30	0229	0255	S08 W12	5719	45	1	2	0349	3.30	6.00		
TASHKENT	30	0334	0419	N11 E51	5726	71	1	2	0414	1.19		73	
{ TASHKENT	30	0408	0519	N20 W57	5713	43 0	1	2		1.87	4.30	71	
PIRCULI	30	0452	0535	N18 W61	5713	5 0	1	1	0946	3.00	6.60		
PIRCULI	30	0610	0618	N10 E45	5726	8 0	1	1	1040	1.00		112	
OUNSINK	30	0944	0949	N21 W62	5713	40 0	2	4	1040	1.71		126	
{ DUNSINK	30	1030	1110	N18 W64	5713	26	1	4		1.00			
UCCLE	30	1039	1135	N12 E43	5726	12	1	4		1.71			
MEUDON	30	1109	1307	N10 E44	5726	18	1	2					
UCCLE	30	1255	2134	N19 W68	5713	6	1	2					
VOROSHILOV	30	2136	2230	N22 W69	5713		1	2					

COMMERCE - STANDARD - BULLOCH

These flare reports are addenda to the June 1960 flares published in CRPL-F 191 Part B, July 1960.

CAPRI C ANACAPRI - GERMAN
 CAPRI S ANACAPRI - SWEDISH
 GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 KIEV* KIEV UNIVERSITY
 KODAIKANAL KODAIKANAL
 KRASNAYA KRASNAYA PAKHRA
 LOCKHEED LOS ANGELES

MOSCOW-G MOSCOW - GAISH
 R O EDIN ROYAL OBSERVATORY, EDINBURGH
 R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
 SAC PEAK SACRAMENTO PEAK
 SCHAUTINS SCHAUTINSLAND
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

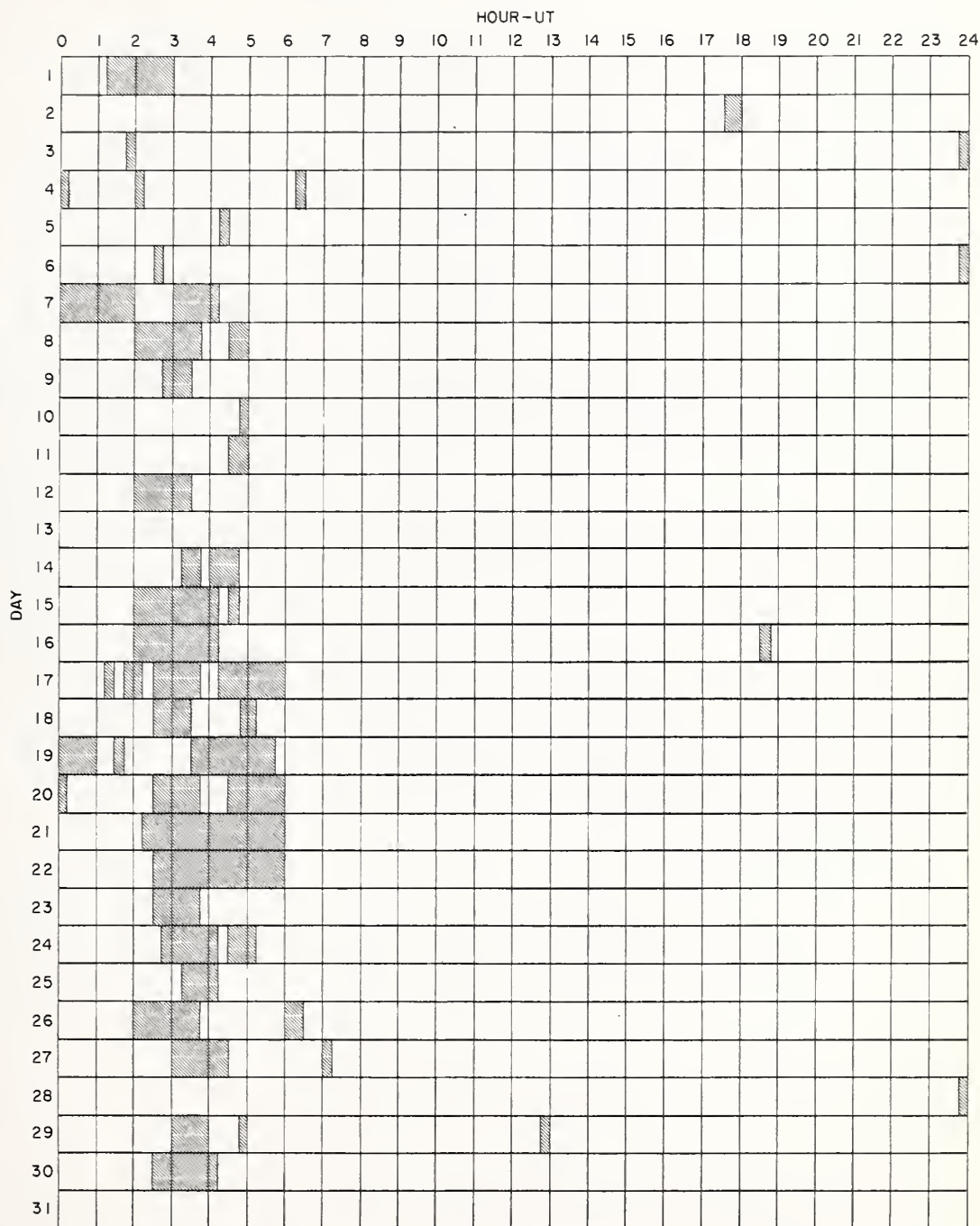
SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE
 ARBITRARY UNITS (0-40), NOT PERCENT
 OF CONTINUOUS SPECTRUM.

E - LESS THAN & - MINUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXI-
 MUN INTENSITY COLUMN ARE ARBITRARY UNITS ON A
 SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS
 SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JUNE 1960



Stations Include:

COMMERCE - STANDARDS - BOULDER

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Dunsink

Hawaii
Huancayo
Kharkov
Kiev GAO
Kodaikanal

Krasnaya Pakhra
Lockheed
McMath
Meudon
Mitaka

Moscow - G
Nizamiah
Ondrejov
Pirculi
Royal Greenwich Observatory
Herstmonceux

Sacramento Peak
Simeiz
Uccle
Voroshilov

SOLAR FLARES

JAN THRU APRIL 1960

OBSERVATORY	DATE 1960	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX.	M-MATH PLACE REGION	TIME — UT				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX. INT. %		
TASHKENT	Jan 01	0557	0611	N25	E85	5520	14	1+	1	0603	2.58	20.00	5.40	220	
TASHKENT	15	0747	0758	N08	E85	5540	11	1+	2	0751	1.65		5.00	130	
TASHKENT	Feb 02	0621	0635	N04	W47	5550	14	1	3	0623	1.01	2.00	4.20	100	
TASHKENT	03	0724	0731	S17	W18	5551	7	1	2	0727	.64	1.00	2.30	55	
TASHKENT	05	0624 E	0659 D	S17	W09	5560	35 D	1	2	0648	1.46	2.00	2.20	65	
TASHKENT	17	0747	0800	N11	W02	5574	13	1	2	0748	2.48	3.00	1.20	45	
TASHKENT	19	0535	0556	N08	W20	5574	21	1+	2		8.72	10.00		65	
TASHKENT	Mar 31	0331	0356	N10	E04	5615	25	1	2	0340	2.66	3.00	1.30	55	
TASHKENT	Apr 01	0249 E	0337	N12	W07	5615	48 D	1+	2	0315	6.24	6.00	2.50		
TASHKENT	02	0519	0600	N11	W23	5615	41	1+	3	0521	2.39	3.00	3.60	195	S-SWF
TASHKENT	05	0300	0447	N13	W68	5615	107	1+	2	0330	10.74	13.00	2.00		
TASHKENT	05	0525	0530	S09	W23	5618	5	1	2	0526	1.84	2.00	2.20	75	
TASHKENT	16	0419	0440	S11	E02	5630	21	1	2	0421	1.46	2.00	1.90	65	
TASHKENT	24	0317	0336	N09	E81	5644	19	1	2	0322	.83	5.00	4.60	70	S-SWF
TASHKENT	29	0333 E	0600 D	N12	W23	5642	147 D	2+	2	0357	23.87	29.00	3.00	130	Slow S-SWF

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the 1960 flares published in CRPL-F Part B, 186, 187, 188 and 189.

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIp

(SHORT-WAVE RADIO FADEOUTS)

AUGUST 1960

Aug. 1960	Start UT	End UT	Type	Wide Spread Index	Impor- tance	Observation Stations	Known Flare, UT CRPL-F 193
5	1043	1104	S-SWF	1	3+	PU	1123E
5	1152	1252	S-SWF	5	2	PR, PU	1123E
6	0915	0926	S-SWF	3	2	NE, CW***	0834E
6	1306	1325	S-SWF	5	1+	BE, HU, MC, NE, PR, WS	1313E
6	1327	1355	S-SWF	5	1+	FM, HU, PR, WS	1313E
6	1510	1530	S-SWF	5	1+	BE, BO, FM, HU, MC, NE, PR, WS, CW**	1506
6	1620	1640	S-SWF	5	2	BE, BO, FM, HU, JU, MC, NE, PR, WS	1618
6	1903	1918	S-SWF	5	1+	BE, BO, FM, HU, MC, NE, PR, WS	1908E
7	0102	0127	Slow S-SWF	5	1	AD, OK	0104E
7	0730	0825	S-SWF	5	2+	BR., OK, TO, CW++, CW***	0728
7	1220	1233	S-SWF	5	2-	BE, BR, FM, MC, NE, PR	1222E
7	1740	1818	G-SWF	5	1	BE, HU, MC, PR	1728
8	0445	0538	S-SWF	5	2-	AD, OK, TO, CW++, CW**	0500E
9	1940	2023	Slow S-SWF	5	1+	AD, BE, FM, MC, PR	
11	0225	0355	Slow S-SWF	5	2	AD, OK, TO, CW++	0247
11	1925	2030	S-SWF	5	2	AN, BE, BO, FM, HU, MC, NE, PR, WS, CW***	1916
12	1021	1040	S-SWF	3	2	KU, NE	1033E
14	0515	0600	S-SWF	5	3	AD, CA, NE, OK, TO, CW++	0534E
14	1307	1400	S-SWF	5	3-	BE, BO, FM, HU, KU, MC, NE, PR, SW, CW***	1250E
15	0112	0133	S-SWF	5	1-	AD, OK	
15	0517	0555	Slow S-SWF	1	1	OK	0525E
16	1143	1206	Slow S-SWF	5	1	BE, HU, MC, NE, PR, SW	1130E
16	2312	2335	Slow S-SWF	5	1	AD, AN, MC, OK, WS	2303
17	1348	1420	Slow S-SWF	4	1	FM, MC, PR, WS	1310
19	1237	1315	S-SWF	5	2+	BE, BR, FM, HU, KA, MC, NE, PR, SW, CW***	1233
19	1822	1901	Slow S-SWF	5	1+	BE, FM, HU, MC, PR, WS	1837E
20	0354		S-SWF	1	2	KO	
20	0707	0745	S-SWF	1	2	PU	
20	0833		S-SWF	1	1	KO	0833E
21	0354	0420	Slow S-SWF	5	1	AD, OK	*
21	1357	1420	S-SWF	5	1	BE, HU, MC, PR	1358E
21	1538	1830	Slow S-SWF	5	3+	BE, BO, FM, HU, MC, PR, WS	1546E
26	0000	0055	Slow S-SWF	5	1+	AD, OK	*
26	1427	1506	S-SWF	5	2	BE, DA, FM, HU, MC, PR, PU, WS	1358
30	0843	0948	S-SWF	1	2	PU	0921

COMMERCE - STANDARDS - BOULDER

BO = Boulder, Colorado
 BR = Breisach, G.F.R.
 CA = Canberra, Australia
 DA = Darmstadt, G.F.R.
 JU = Juhlesruh, G.D.R.
 KA = Kanzelhoehe, Austria
 KO = Kodaikanal, India
 KU = Kuhlungsborn, G.D.R.
 NE = Nederhorst den Berg, Netherlands

PU = Prague, Czechoslovakia
 SW = Enkoping, Sweden
 TO = Hiraio Radio Wave Observatory, Japan
 CW* = Cable and Wireless, Barbadoes
 CW** = Cable and Wireless, Somerton, England
 CW*** = Cable and Wireless, Brentwood, England
 CW+ = Cable and Wireless, Hong Kong
 CW++ = Cable and Wireless, Singapore

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption
Sudden Enhancements Of Atmospherics)
Solar Noise Bursts At 18 Mc.

AUGUST 1960

Aug. 1960	CLASS			WIDESPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
1			1	5	2222		2226		<u>BO</u> , HA, MC
2			1	5	2152		2155		<u>BO</u> , HA
3			2	1	0147		0150		<u>HA</u>
3			1	4	1615		1640		<u>BO</u> , <u>MC</u> (Group of Bursts)
3			1	4	1906		1909		<u>BO</u> , MC
3			1	4	1944		1946		<u>BO</u> , MC
3		3	1	1	2217	2223	2246		<u>TY</u>
3			1	1	2325		2336		<u>HA</u> (Group of Bursts)
4			1	1	0100		0102		<u>HA</u>
4			1	1	0144		0147		<u>HA</u>
4		2+		5	1200	1221	1350D		A1, A3, A5, A10, KA
4			2	5	1500		0100		<u>BO</u> , HA, MC (Noise Storm)
5		3+	1	1	0659	0712	0750		<u>A11</u>
5			2	5	1300		0100		<u>BO</u> , HA, MC (Noise Storm)
6		1	5	5	0915		0945D		A11, <u>NE</u>
*{6			2	5	1300		0145		<u>BO</u> , HA, MC (Noise Storm)
*{6		2	5	5	1309	1317	1357		A1, A3, <u>A5</u> , A6, NE, PA
*{6		1+	5	5	1508	1519	1547		A3, <u>BO</u> , NE, PA
*{6	1		4	5	1509	1516	1530	25	<u>BO</u> , MC
*{6			1	4	1619		1629		<u>BO</u> , MC
*{6		2	5	5	1622	1633	1703		A3, A6, <u>BO</u> , NE, PA
*{6	□		4	5	1629	1630	1640		<u>BO</u> , MC (Obscured by Bursts)
*{6			1	5	1901		1904		<u>BO</u> , HA, MC
*{6		2	5	5	1902	1912	1958		A3, A5, A6, <u>BO</u> , HA, PA
*{6	□		5	5	1904	1905	1912		<u>BO</u> , HA, MC (Obscured by Bursts)
7		1+	5	5	0729	0734	0759		A11, H0, <u>TY</u>
*, + 7		1+	5	5	1219	1225	1315		A1, A3, <u>A5</u> , NE, PA
7			2	5	1300		0100		<u>BO</u> , HA, <u>MC</u> , (Noise Storm)
* 7		2	5	5	1745	1754	1825D		A1, A3, <u>A5</u> , PA
7		1+	5	5	2007	2019	2045D		A1, A3, <u>A5</u> , A6
8		1	1	1	0451	0512	0529		<u>TY</u>
*{9	1		5	5	1946	1954	2025	15	<u>BO</u> , HA, MC
*{9		2	5	5	1948	1959	2030		A1, A3, A5, A6, A10, <u>BO</u> , HA
9			1	5	2334		2336		<u>BO</u> , <u>HA</u>
{11			1	1	0229	0244	0334		<u>HA</u>
{11		1	1	1	0230	0306	0335		<u>HA</u>
11		1+	3	3	1310	1318	1332		A1, A3, <u>A5</u> , A10
11			1	1	1444		1447		<u>MC</u>
11			1	1	1555		1559		<u>MC</u>
{11		2+	5	5	1925		2008		A1, A3, A5, A6, A10, HA, <u>MC</u> , NE, PA
{11			3	5	1925		2020		<u>BO</u> , HA, <u>MC</u> (Group of Bursts)
{11	3		5	5	1932U			75	HA, <u>MC</u>
11			2	5	2255		2302		<u>BO</u> , <u>HA</u> , MC
12			2	1	0045		0051		<u>HA</u>
12		1	1	1	1021				<u>NE</u>
12			1	1	1239		1242		<u>MC</u>
{12		1+	3	3	1458	1503	1550		A1, A3, A5
{12			2	4	1452		1457		<u>BO</u> , MC
12			1	5	2130		0130		<u>BO</u> , <u>HA</u> (Noise Storm)
13			1	5	0000		0004		<u>HA</u>
14		2	1	1	0506		0554		<u>HO</u>
{14			1	1	1308	1312	1325		<u>MC</u>
*{14	1		5	5	1308	1312	1340		A1, A3, A5, NE, PA
15		1	1	1	0702		0742D		<u>HO</u>
15			2	5	1428		0115		<u>BO</u> , HA, MC (Noise Storm)
16			1	5	1855		1858		<u>BO</u> , HA, MC
16			1	5	1909		1911		<u>BO</u> , HA, MC
16			1	5	2203		2206		<u>BO</u> , <u>HA</u>
{16		2	1	1	2307	2313	0015	35	<u>HA</u>
*{16			5	5	2307	2323	0030		A1, A3, A5, A6, A10, <u>HA</u> , H0, MC, TY
17			1	5	2142		2143		<u>BO</u> , HA
17			1	5	2151		2153		<u>BO</u> , HA

(Sudden Cosmic Noise Absorption
Sudden Enhancements Of Atmospherics)
Solar Noise Bursts At 18 Mc.

AUGUST 1960

Aug. 1960	CLASS			WIDE- BAND INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
{ 19 *,+ 19 19	1		1	1	1235		1236		<u>MC</u>
				1	1236	1250	1315		<u>MC</u>
		2		5	1236		1326		A1, NE, <u>PA</u>
		1		3	1506	1510	1540D		A1, <u>A6</u>
{ 19 *,+ 19 19 *,+ 19 19	1		1	5	1832		1834		BO, <u>HA</u> , MC
				5	1836	1840	1900	20	BO, <u>HA</u> , MC
		1+		5	1837	1850	1905		A1, A3, A5, <u>HA</u>
	1		2	5	2131		2134		BO, HA, MC
		1		5	2131	2140	2205		A3, A5, <u>BO</u>
		1		5	2134	2140	2200	20	BO, HA, MC
{ 20 *,+ 21 21 21 22 23 23 24 24 25	1	1+		1	0603	0615	0650		<u>A11</u>
				4	1536	1605		25	<u>BO</u> , MC
		1+		4	1537	1604			A1, <u>BO</u>
			1	5	1557		0100		BO, HA, MC (Series of Bursts)
		2		3	1954	2008	2030		A3, <u>A6</u>
			1	5	1953		1956		BO, HA, MC
			1	5	2319		2321		BO, HA
			1	4	1713		1714		BO, MC
			1	4	1834		1836		BO, MC
		2		3	1923	1930	1955		A1, <u>A5</u>
{ 26 *,+ 26 26 26 26 27 27 28 29 30 30 30 31	1			1	0002	0010	0033	15	<u>HA</u>
		1		1	0004	0020	0100		<u>HA</u>
		1+		5	1426	1440			A1, A5, A10, BO, <u>MC</u> , PA
				1	1427	1431	1500	15	<u>MC</u>
			1	5	1629		2400		BO, HA, MC (Noise Storm)
		1		1	0359	0409	0421		<u>TY</u>
		1		4	1537	1548	1630		<u>A1</u> , A5, A6, A10
			1	5	1650		2313		BO, HA, MC (Series of Bursts)
			2	5	1912		1920		BO, HA, MC
	1			1	0019	0022	0045	10	<u>HA</u>
30 30 31	1			5	0020	0032	0200		A11, <u>HA</u>
			1	5	1901		1917		BO, HA, MC (Group of Bursts)
			1	5	1646		1658		BO, MC (Group of Bursts)

COMMERCE - STANDARDS - BOULDER

A10 = Blauvelt, New Jersey

A11 = Manila, Philippines

KA = Kanzelhoehe, Austria

TY = Research Institute of Atmospherics, Toyokawa, Japan

* = Sudden Enhancement of Signal from 18 kc (NBA-Panama Canal Zone) observed by A5

+ = Sudden Phase Anomaly of 18 kc (NBA) at Boulder, Colorado

Note: No usable record Sacramento Peak for August 1960.

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Ottawa

SEPTEMBER 1960

2800 Mc

Sept. 1960	Type*	Start UT	Duration Hrs:Mins	Maxima		Remarks
				Time UT	Peak Flux	
4	6 Complex	1627	3	1628.8	18	
	4 Post Increase A		15		3	
	1 Simple 1 f	1633.3	3.5	1634	4	
5	1 Simple 1	1924	2.5	1926	7	
6	3 Simple 3	1450	1 40	indet.	7	
7	6 Complex	1302	8	1302.5	8	
7	2 Simple 2	2309.5	5	2311	110	In sunset osc.
8	2 Simple 2	1815.5	2	1816.5	13	
9	3 Simple 3	1548	30	1551	5	
10	1 Simple 1	1301	3	1302	4	
10	1 Simple 1	1406.5	1.5	1406.8	7	
10	2 Simple 2 f	1621	4	1621.8	90	
	4 Post Increase		45		4	
11	2 Simple 2 f	1206.5	5	1207.5	140	
	4 Post Increase		30		15	
14	1 Simple 1	1418.5	2	1419	4	
14	6 Complex	1703	6	1705	19	
15	3 Simple 3 A	1252.5	1 27.5	indet.	6	
	6 Complex	1257	5	1257.6	19	
	3 Simple 3	1403	14	1410	6	
15	3 Simple 3	1510	1 50	1540	6	
16	- Great Burst f	1702	1 37	1756	2000	
	4 Post Increase A		2 40		18	
	6 Complex	1842.5	23	1901	63	
18	1 Simple 1	1527.8	1	1528.2	4	
18	1 Simple 1	1731.5	1.5	1732	7	
18	2 Simple 2	1748.5	2.5	1749.5	30	
18	6 Complex	1824	10	1828	50	
18	2 Simple 2	2041	1	2041.5	8	
20	1 Simple 1	1316	3	1317	5	
22	2 Simple 2 f	1800	5	1801	10	
23	3 Simple 3 A	1322	1 00	1326	7	
	2 Simple 2	1334	4	1335	20	
24	6 Complex f	2115	6	2116.9	130	
	4 Post Increase		40		9	
25	1 Simple 1	1556	4	1557	3	
25	6 Complex	1834	25	1835.7	11	
25	3 Simple 3 A	1940	1 30	indet.	5	
	6 Complex	2014.7	2.5	2016.3	7	
25	1 Simple 1	2143	1.5	2143.3	7	
26	2 Simple 2 f	1205.5	5	1207.5	16	
26	6 Complex	1353	5	1354.8	80	
	4 Post Increase		35		6	
26	2 Simple 2	1659.3	1	1659.8	16	
26	6 Complex f	1950.5	2	1950.8	19	
27	3 Simple 3	1310	4 30	indet.	8	

COMMERCE - STANDARDS - BOULDER

HOURS OF OBSERVATION: JULY, AUGUST, SEPTEMBER 1960

OBSERVING PERIOD:

July 1135 UT - 2400 UT (approx.)
 August 1200 UT - 2330 UT (approx.)
 Sept. 1210 UT - 2230 UT (approx.)

with the following exceptions:

(1) Observations for calibration purposes only:
 September 1, September 3

(2) Observations commenced:

August 5 - 1515
 August 9 - 1410
 August 12 - 1440
 August 13 - 1450
 August 15 - 1530
 August 17 - 1450
 August 31 - 1530
 September 2 - 1355
 September 4 - 1440
 September 5 - 1505
 September 6 - 1440
 September 18 - 1330

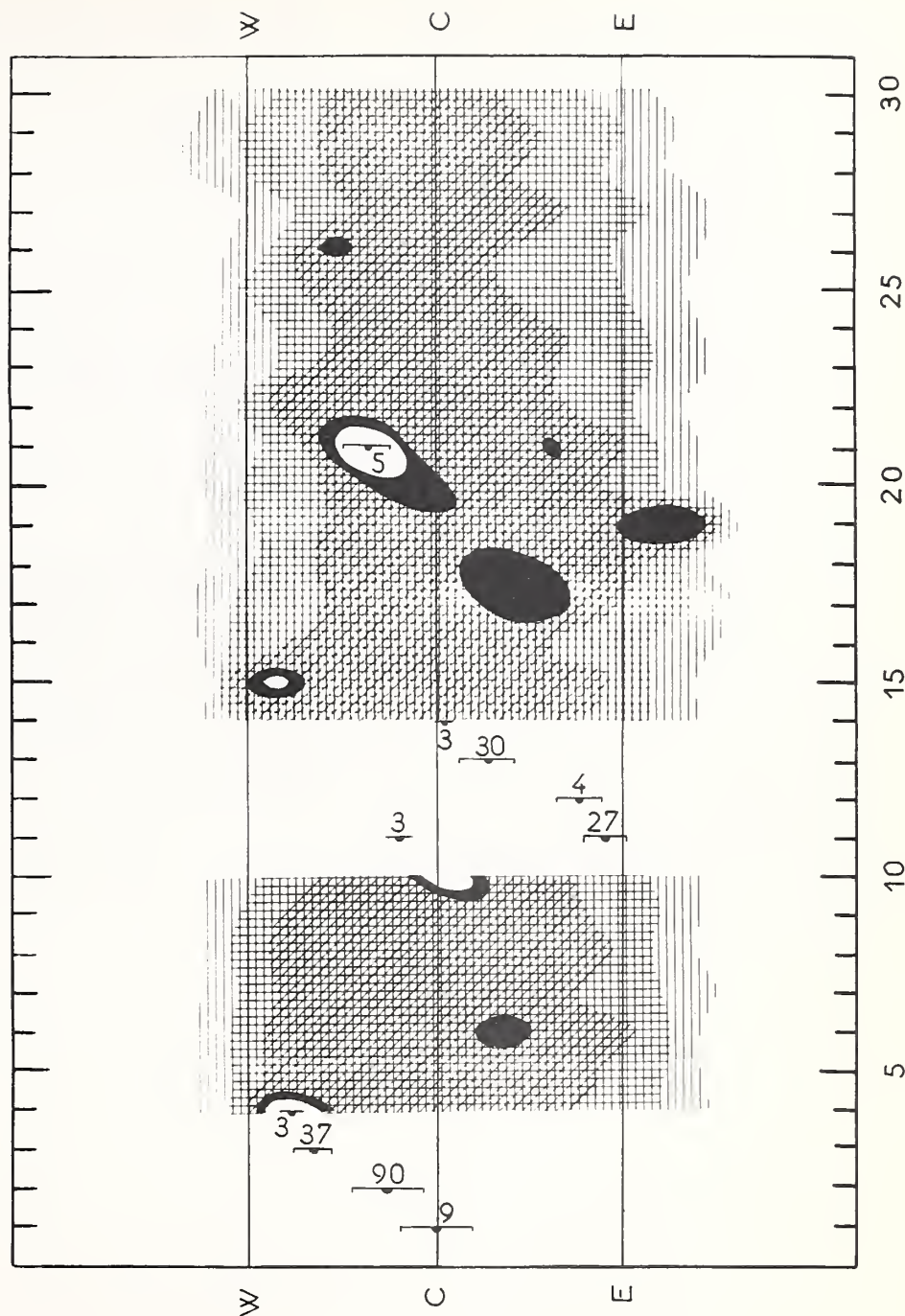
(3) Observations ended:

August 16 - 2025
 September 2 - 1900
 September 4 - 1740
 September 5 - 1720

(4) Continuous observations have been interrupted,
 on all days, for receiver calibration and, on
 most days, by sporadic interference.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay SEPTEMBER 1960 169 Mc



5 10 15 20 25 30
SEPTEMBER 1960

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

BOULDER

SEPTEMBER 1960

167 MC

Sept. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity	Sept. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	8	1322.3	1325.0	7	1	14	3	1808.0	1808.0	0.4	2
1	3	1419.9	1419.9	0.9	2	14	3	2004.5	2005.0	1.0	2
1	3	1612.0	1612.2	0.3	2	14	3	2036.5	2036.5	0.5	2
1	7	2041		276 D	2	14	3	2103.6	2103.9	0.5	2
1	8	2041.8	2044.1	3	3	14	3	2107.2	2108.2	1.7	2
1	8	2100.0	2102.0	3	3	16	9	1709.0	1809.0	89	3
2	6	1229 E		770 D	2	16	9	1838.0		47	2
2	8	2309.0	2310.1	6	3	18	3	1339.0	1339.0	0.2	2*
3	9	0102.1	0103.0	13	3**	18	3	1425.0	1425.0	0.4	2
3	6	1229 E		124 D	2	18	3	1452.9	1453.0	0.5	2
3	2	1637		19	1	18	3	1645.0	1646.0	2.1	2
3	7	2116		60	1	18	2	1824.6	1824.8	10	2
4	9a	0009.0	0009.0	6	3**	18	3	1840.6	1841.0	1.5	3
4	9b	0015.0	0020.0	15	2**	18	3	1907.5	1908.0	1.4	3
5	3	1821.0	1822.0	1.5	2	18	3	1949.0	1949.0	1.0	3
5	8	1932.0	1939.5	10	1	18	3	2040.2	2041.2	1.8	3
7	3	1301.9	1302.5	3.1	2*	20	3	1300.5	1300.5	0.8	3*
7	3	1334.0	1334.5	1.6	1	21	7	1357		647 D	2
7	3	2316.2	2317.0	0.9	1	22	7	1430		45	1
8	3	0028.0	0028.0	0.3	1	23	3	1333.5	1335.0	2.5	2
8	8	1815.5	1816.1	1.7	3	24	6	1250 E		295 D	1
9	3	1742.0	1742.5	1.1	2	24	8	2114.0	2116.0	6	1
9	3	2214.5	2214.7	0.8	2	25	3	1840.5	1841.0	1.5	2
10	3	1517.2	1517.2	0.1	2	25	3	2012.0	2012.2	0.5	2
10	3	1534.5	1534.5	0.3	3	25	3	2035.5	2036.0	1.5	2
10	3	1933.8	1934.2	1.2	2	25	3	2041.0	2041.5	0.8	2
11	6	1237 E		218 D	2	25	2	2248.0	2249.0	2.8	2
11	3	1707.6	1707.6	0.2	2	26	3	0029.5	0029.5	0.3	2**
11	2	1721.5	1722.0	2.0	2	26	3	1355.0	1355.5	2.0	3
11	2	1730.0	1730.9	2.0	2	26	8	1846.5	1847.0	2.6	3
12	7	1402		657 D	2	27	6	1252 E		92 D	1
12	8	1806.8	1807.0	3	2	28	3	0023.2	0023.5	0.6	2**
12	8	1810.0	1812.0	4	3	30	3	1807.5	1808.2	1.5	2
12	3	1821.0	1821.2	1.8	3						
13	6	1238 E		740 D	2						

* On sunrise pattern.

** On sunset pattern.

COMMERCE - STANDARDS - BOULDER

BOULDER

TIMES OF OBSERVATIONS

167 MC

Sept. 1960	U.T.		Sept. 1960	U.T.	
1	1227-0117	I 1515-0117	16	1236-2045	I 1525-1730;
2	1229-0119	I 1525-0119		2224-0051	2300-2340
3	1229-0115		17	1244-0051	I 1845-0051
4	1229-0114		18	1245-0047	
5	1232-0111	I 1945-0111	19	1245-0048	I 1603-2355
6	1233-0109	I 1503-1838; 1929-0109	20	1245-0045	I 1515-1800; 2000-0010
7	1233-0108	I 1507-2359	21	1247-0044	I 1520-1800; 1953-0027
8	1233-0105	I 1517-1547; 1745-1837; 1923-0105	22	1248-0042	I 1520-1800; 1928-0042
9	1235-0104	I 1514-0020	23	1248-0040	I 1625-1848; 1928-0005
10	1235-0102	I 2212-0102	24	1250-0043	
11	1237-0102		25	1250-0037	
12	1238-0059	I 1440-1715; 1955-2250; 2357-0045	26	1252-0035	I 1512-1818; 1921-0000
13	1238-0058		27	1252-0033	I 1512-1625; 1823-1849; 2135-2347
14	1239-0055	I 1500-1610; 1645-1900; 2132-0055	28	1253-0031	I 1520-1722; 1930-2325
15	1240-0054	I 1502-2220	29	1253-0030	I 1530-1840; 2055-2315
			30	1255-0030	I 1638-1755; 1900-0030

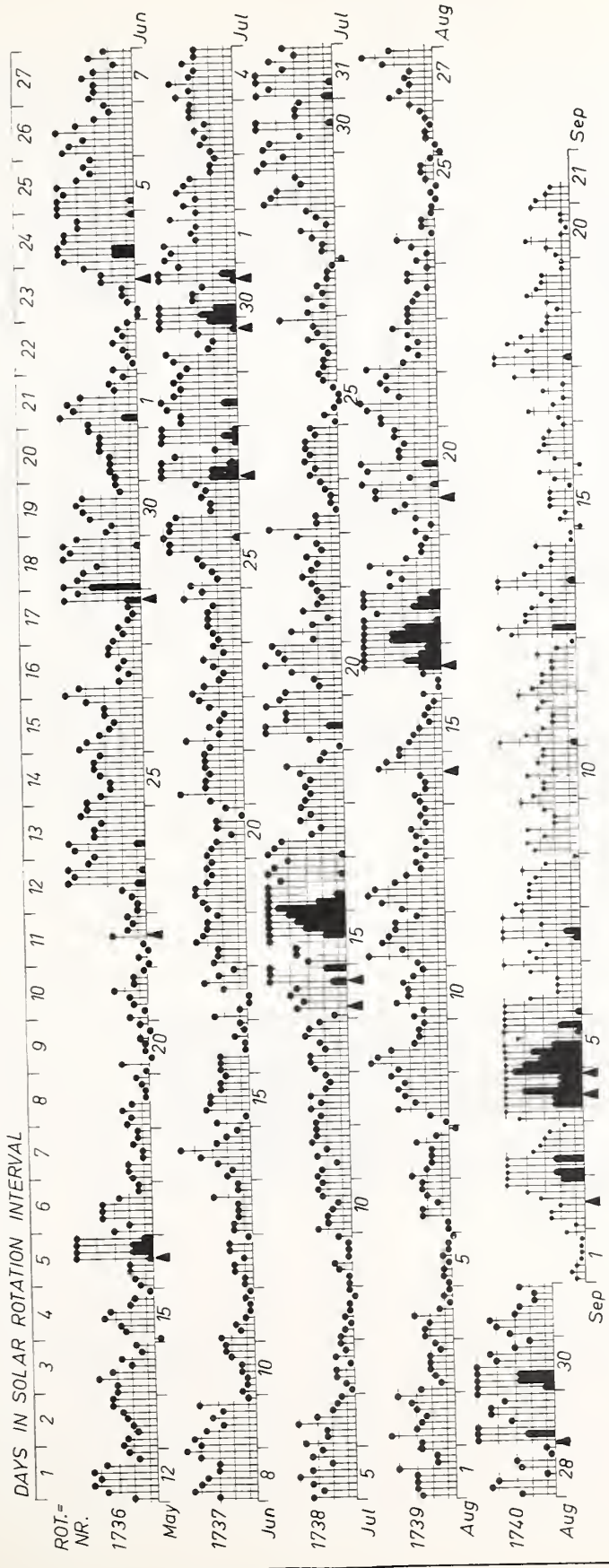
COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

AUGUST 1960

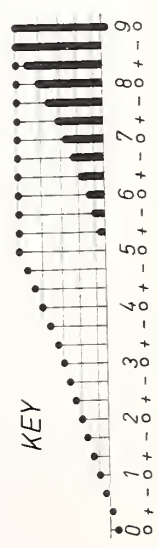
Aug. 1960	C	Values Kp								Sum	Ap	Final Selected Days	
		Three hour Gr. interval											
		1	2	3	4	5	6	7	8				
1	0.7	3-	3o	3o	3o	4o	2-	2-	3-	22-	14	Five Quiet	
2	0.9	3-	4+	3o	3-	2+	3o	3+	4o	25+	18		
3	0.4	3-	1+	2-	2o	2o	2o	1+	2-	15-	7		
4	0.4	2+	2+	2o	3o	1+	1-	1o	1-	13+	7		4
5	0.1	1-	1o	1o	1-	1o	1-	1-	0+	6o	3		5
												24	
6	0.4	1-	1-	2+	2+	1+	2o	2+	2+	14o	7	25	
7	0.5	3o	2o	2-	2-	2-	3-	1+	0o	14o	7	26	
8	1.0	1-	2-	4-	3-	3+	4-	3+	4o	23o	16		
9	1.1	4-	5o	5-	4o	3-	2+	2+	2o	27-	22		
10	0.8	3-	2o	4-	3o	3o	3+	3-	2o	22+	14		
11	1.2	2+	5o	3+	4+	4o	4-	4-	2+	29-	23	Five Disturbed	
12	1.1	3+	4+	5o	5-	4-	3o	2o	2+	28+	24		
13	0.5	2-	2+	2-	2+	3-	2-	2o	2-	16o	8		
14	1.0	2o	2+	2-	2-	2o	4+	4o	3+	21+	14		16
15	0.5	3+	3-	2+	2o	1+	2-	1+	1o	16-	8		17
												21	
16	1.4	2-	1-	1-	2-	6+	7o	6+	6o	30+	52	29	
17	1.8	8-	8-	7o	5+	4+	7-	6+	6-	51-	106	30	
18	1.0	4-	3o	4-	5-	3-	2-	2-	1+	22+	16		
19	1.2	2o	1o	2o	3+	3-	4+	4+	5+	25o	21		
20	1.3	2+	5-	6o	3o	3o	3-	3+	3+	28+	26		
21	1.2	4o	4o	5-	5o	3o	4-	4o	4-	32o	28	Ten Quiet	
22	0.8	5-	3-	2-	2+	2-	2+	3+	2+	21o	14		
23	0.4	2+	2+	2o	2-	1o	2+	2+	1o	15o	7		
24	0.2	2-	1o	2o	3o	1-	1+	1+	1-	12-	6		3
25	0.1	1-	0+	1-	0+	1o	1+	1+	1-	6+	3		4
												5	
26	0.1	0o	0+	1o	1o	1-	1o	1+	2o	7+	4	6	
27	1.1	3+	3-	2o	2+	2o	4-	5-	3+	24o	16	7	
28	0.8	3-	4+	4o	1o	3-	3o	1-	1o	19+	14	13	
29	1.5	5o	7-	5o	3+	4+	4+	4-	5o	37+	45	23	
30	1.4	6-	7o	7o	5o	4o	4+	3o	2o	38o	58	24	
31	0.8	3+	4o	4+	3o	3-	2-	2-	3-	23+	16	25	
												26	
Mean:	0.83									Mean:	20		

COMMERCE - STANDARDS - BOULDER



PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp till 1960 August 31
(*Ks* from Wingst and Göttingen till Sept. 21)

▲ = sudden
commencement



J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

AUGUST 1960

Aug. 1960	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:				Geomag- netic K _{Fr} Half Day (1) (2)
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-3 days SDW	1-7 days J	
1	6o	5o	6-	6+	5	5	6	6	6-	5			5	3 3
2	7-	4+	6-	6+	6	4	5	6	6-	6			6	(4) 2
3	6+	5-	6+	6+	6	5	6	6	6o	6			6	2 2
4	6+	6-	6+	7-	6	4	6	6	6+	6			6	3 1
5	7-	6o	7-	7o	6	6	7	7	7-	6			6	2 1
6	7o	6o	7-	7-	7	6	7	7	7-	6			6	2 2
7	7-	7-	6+	7o	7	6	7	7	7-	6			6	3 2
8	7-	6-	6+	6+	7	6	7	7	6+	6			6	2 3
9	6-	4+	5+	6o	6	6	6	6	5o	6			6	(4) 2
10	6+	5o	6-	6+	6	6	6	6	6-	6			6	3 2
11	6-	5-	5+	6o	6	4	6	6	5+	6			6	(4) 3
12	6-	3+	5+	6+	6	5	6	6	5-	6			6	(4) 3
13	6+	6-	6+	6+	5	5	6	6	6+	5		5	6	2 2
14	7-	6-	7-	6+	5	5	6	6	6+	3		3	5	3 3
15	6o	6-	6o	6+	6	4	6	6	6o	4		4	5	3 1
16	6+	6+	6+	6-	6	6	7	5	6+	6	6		5	1 (5)
17	2+	2-	4-	4-	4	2	3	4	(3o)	6	6		6	(6) (4)
18	3+	2+	5o	6o	3	3	5	5	(4-)	3			3	(4) 2
19	6+	5+	6o	6o	5	5	6	6	6o	5			5	2 (4)
20	6o	4+	6-	6+	5	5	5	6	5+	5			5	(4) 3
21	6+	5o	6-	7-	6	5	6	6	6-	6			6	(4) 3
22	6o	5+	6+	7-	6	4	6	7	6o	6			6	3 3
23	7-	6o	7-	7-	7	6	7	7	7-	6			6	2 2
24	7-	6o	7o	7-	7	6	6	7	7-	6			6	2 1
25	7-	6+	7-	7o	6	6	7	7	7-	6			6	1 1
26	7-	6+	6+	7-	5	5	6	6	7-	4			4	1 2
27	7-	6+	6o	6+	7	6	7	7	6+	4			4	2 (4)
28	6+	5+	7-	7-	6	5	6	7	6+	6			6	(4) 2
29	7-	4+	6-	5+	7	6	5	6	5+	6			6	(5) (4)
30	3-	1+	4-	5-	5	1	4	4	(3o)	7			7	(6) 3
31	3-	2o	6-	6-	4	2	4	6	(3+)	4	4		7	(4) 1
Score: Quiet Periods					P	18	13	15	21	10				10
					S	7	7	13	9	13				15
					U	2	0	0	0	0				0
					F	0	2	1	0	4				2
Disturbed Periods					P	1	4	1	1	0				0
					S	1	2	1	0	2				1
					U	2	1	0	0	0				0
					F	0	2	0	0	2				3

() represent disturbed values.

All times are Universal time (UT).

COMMERCE - STANDARDS - BOULDER

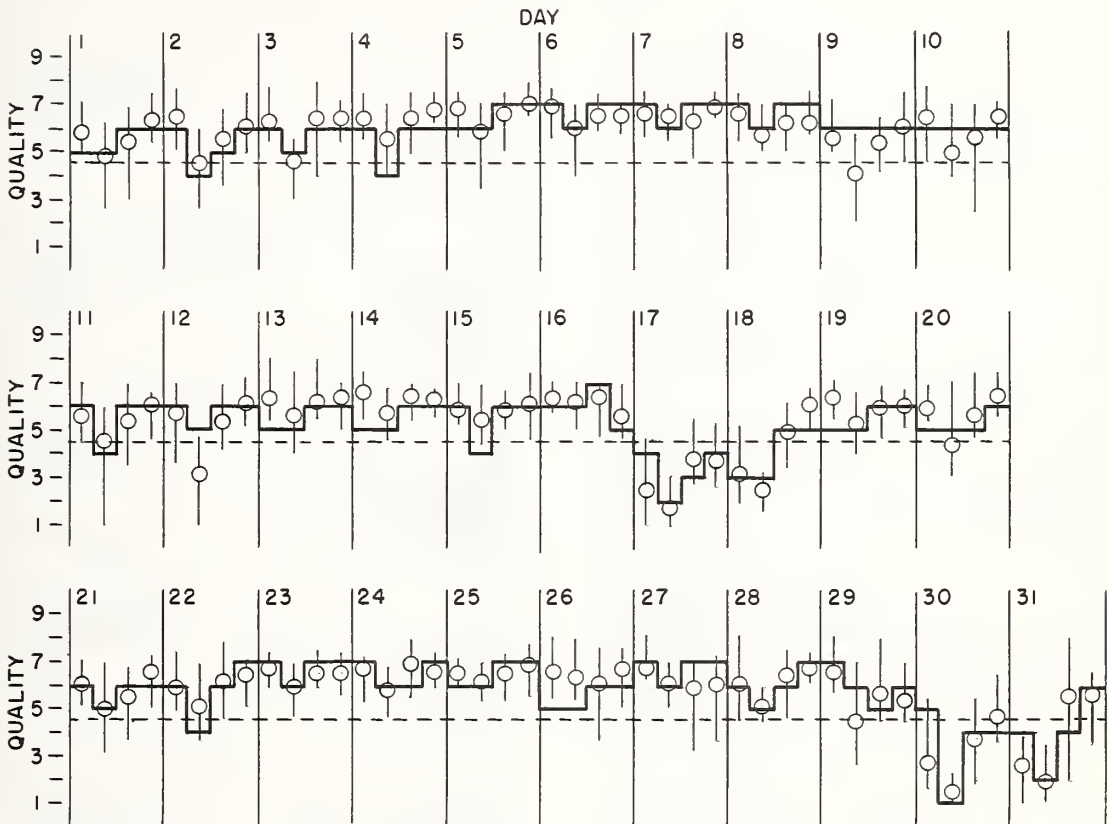
NORTH ATLANTIC

AUGUST 1960

— Short-term forecast

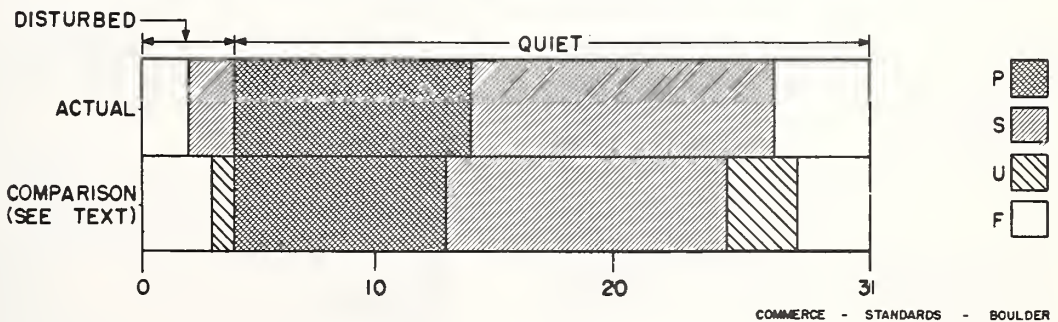
| Range of reports

o Quality figure

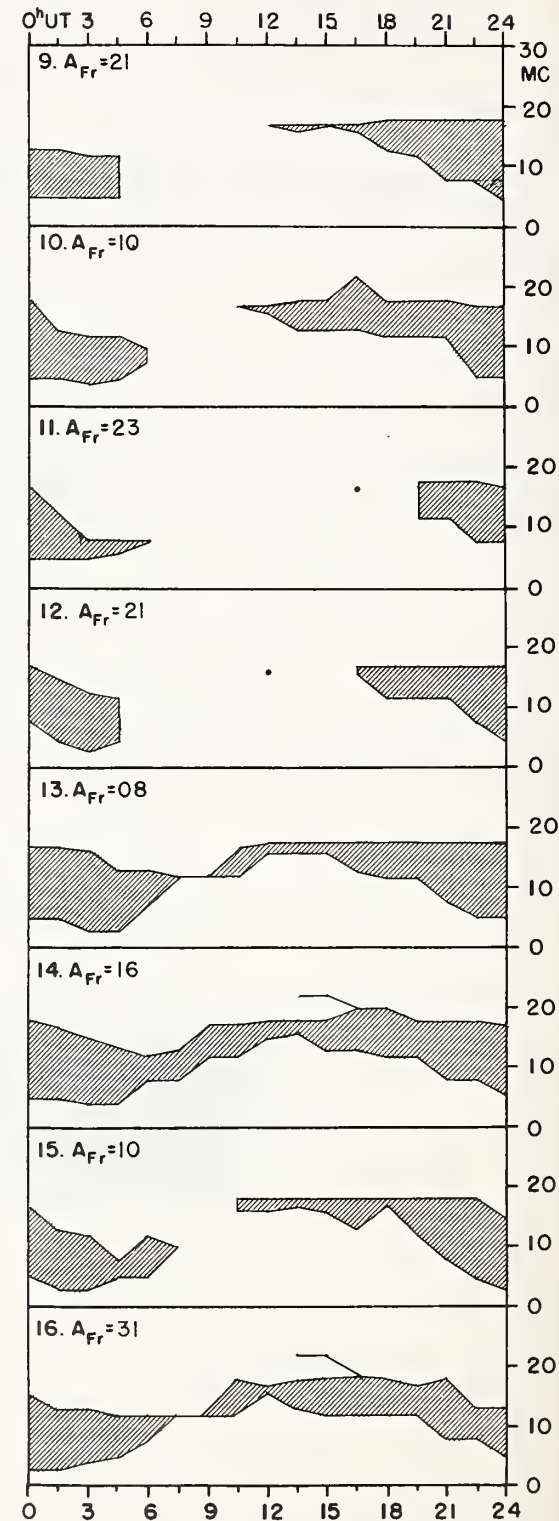
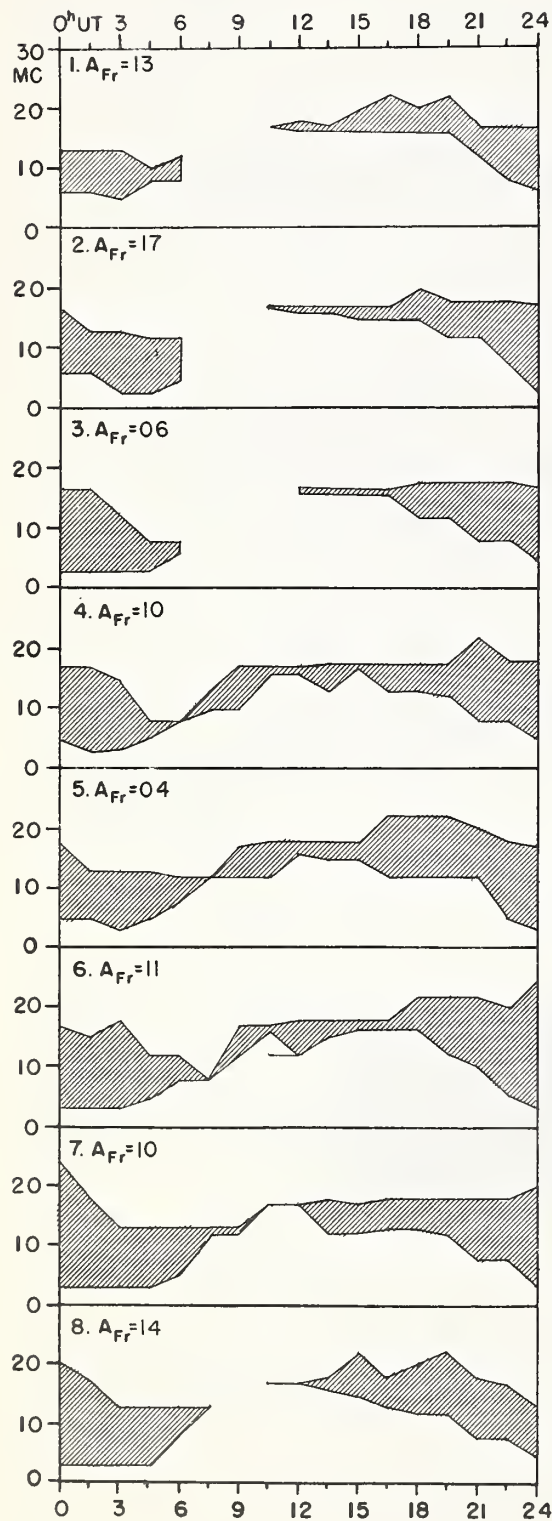


OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

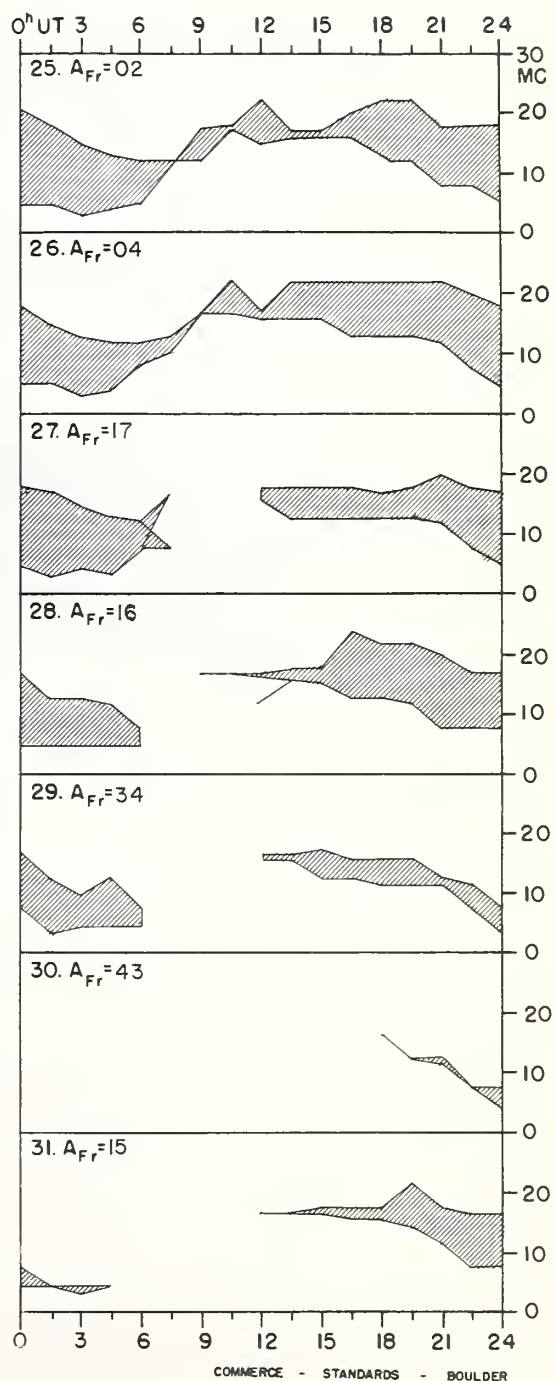
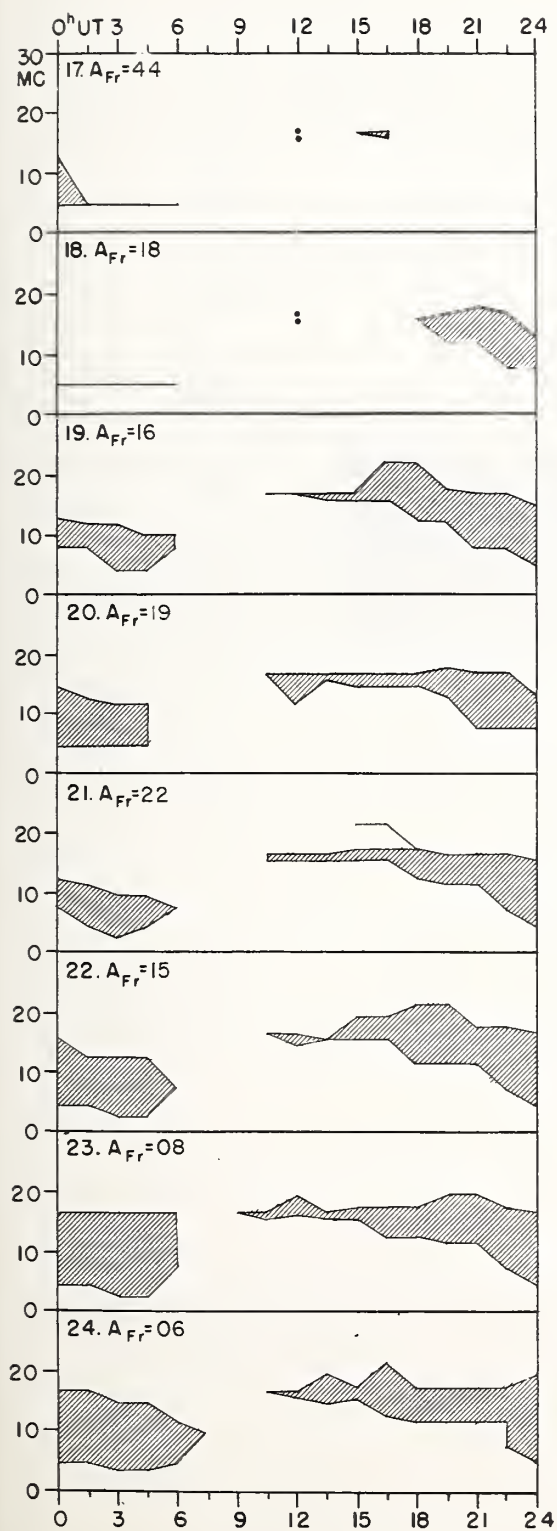


AUGUST, 1960



COMMERCE - STANDARDS - BOULDER

AUGUST 1960



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

AUGUST 1960

Aug. 1960	North Pacific 12-hourly quality figures		Short-term fore- casts issued at		Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomag- netic K _{SI}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-3 days SDW	1-7 days Jp	Half (1)	Day (2)
1	6	6	5	6	6	6			6	3	3
2	6	6	5	6	6	6			6	(4)	3
3	6	6	6	6	6	6			6	2	2
4	6	7	6	6	6	6			6	3	1
5	6	7	6	7	7	6			6	1	0
6	6	7	6	6	6	6			6	2	2
7	6	7	5	6	6	6			6	2	2
8	6	7	6	5	6	6			6	2	3
9	6	6	4	6	6	6			6	(5)	2
10	6	6	6	6	6	6			6	3	2
11	5	6	4	5	5	6			6	(4)	(4)
12	6	6	5	6	6	6			6	(5)	3
13	6	5	5	5	6	(4)		4	6	2	2
14	7	6	5	6	6	(3)		3	5	2	3
15	7	6	5	6	6	(4)		4	5	2	1
16	5	5	7	4	5	6	6		6	1	(6)
17	4	4	4	4	(3)	6	6		6	(8)	(6)
18	4	5	5	5	(4)	(4)			4	(5)	2
19	5	6	6	5	5	5			5	2	(4)
20	6	5	4	5	6	5			5	(4)	3
21	5	5	5	6	5	5			5	(5)	3
22	6	6	6	6	6	6			6	3	2
23	6	6	6	6	6	6			6	2	2
24	5	6	7	6	6	6			6	2	1
25	6	6	7	6	6	6			6	0	1
26	7	6	7	6	7	5			5	0	1
27	6	6	6	5	6	5			5	2	2
28	6	5	5	6	6	6			6	3	2
29	5	5	3	5	5	6			6	(5)	(4)
30	3	4	4	4	(2)	6			6	(8)	(4)
31	4	5	5	5	(4)	6			6	(4)	2
Score: Quiet Periods P 11 19 17 S 9 9 6 U 5 1 1 F 2 0 3 Disturbed Periods P 1 2 1 S 3 0 0 U 0 0 0 F 0 0 3											

() represent disturbed values.

All times are Universal time (U.T.)

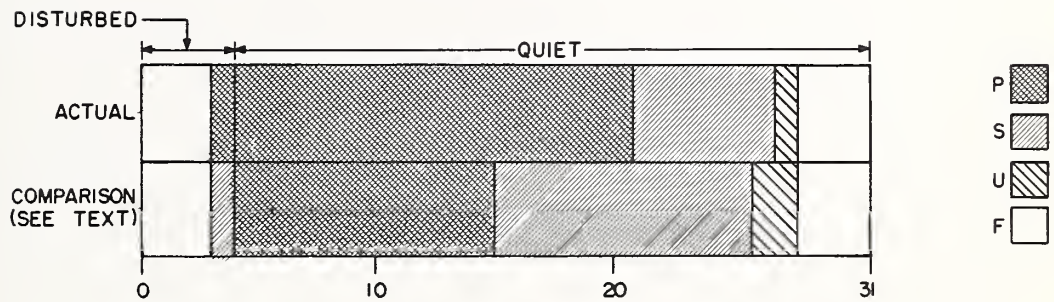
COMMERCE - STANDARDS - BOULDER

NORTH PACIFIC

AUGUST 1960

OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

SEPTEMBER 1960

Issued Day/Time UT Sept. 1960	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
3/1600	Ft. Belvoir, Magnetic Storm 04/0230Z	85	Magnetic Storm 2/17XXZ	Start Special World Interval Continue Special World Interval Finish Special World Interval
4/0925				
4/1600		86	Magnetic Storm 04/0230Z	
5/1600		87		
6/1600		88		
16/2030	Climax, Solar Flare 16/1705Z			
18/0255*	Ft. Belvoir, Magnetic Storm 18/0150Z			
24/1255*	Ft. Belvoir, Magnetic Storm 24/02XXZ			

COMMERCE - STANDARDS - BOULDER

*Was not considered magnetic storm by time to be issued as a world-wide geophysical alert.

